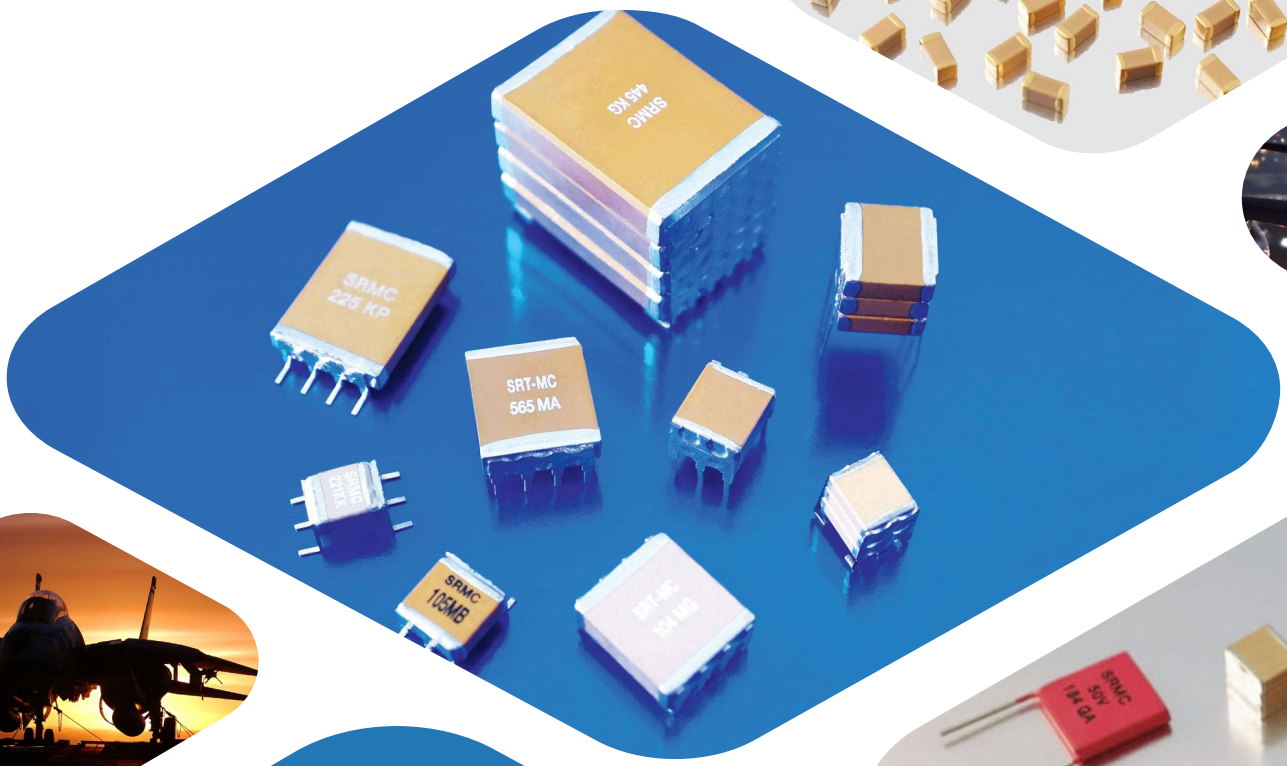


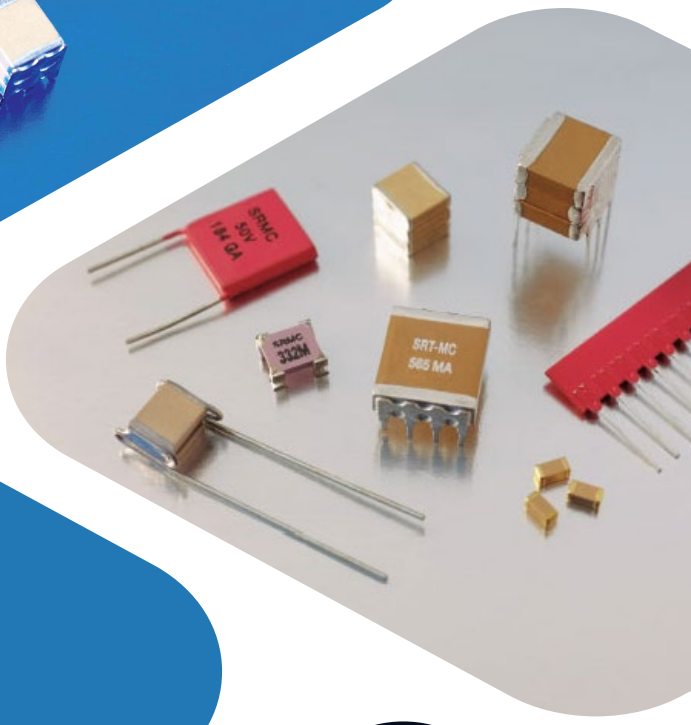
SRT
MICROCÉRAMIQUE
MLCC CAPACITORS











- MLCC, FILTERS, STACK, RADIAL
- STANDARD AND CUSTOM PRODUCTS
- HIGH VOLTAGE, FREQUENCY, PRECISION
- HIGH REACTIVITY, SHORT LEAD TIMES
- SERVICE PROVIDER
- COMPLETE PASSIVE & THERMAL SOLUTIONS
- MANUFACTURED IN FRANCE



SRT MICROCÉRAMIQUE

We manufacture MultiLayer Ceramic Capacitors and filters in France. Established in 1982 in Vendôme by former Vishay-Vitramon employees, SRT-Microcéramique is one of the only two companies still producing MLCCs in Europe. We are specialized in high value components, high voltage, high frequency, high precision, high reliability, low ESL, non-magnetic components and precision filters.

Manufactured in Europe, short lead time guaranteed (4 to 8 weeks) No obsolecence

Applications of our products include commercial aerospace, defense, medical applications (both implantable and imaging), space level, military aircraft and ground-based systems, high temperature (geophysical and geothermal), pulse discharge with high repetition rate, and a variety of commercial and industrial applications.






OUR PRODUCTS

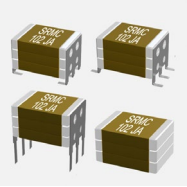
Range from Multi-layer Surface Mount Chip, to Stack, Radial leaded and vertical layers capacitors and filters in a variety of dielectrics and the full range of termination to suit your applications. We can produce large or small quantities.

Cross reference to most competitors designs : Exxelia, Syfer, Kemet, Presidio...

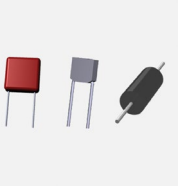
Due to our very flexible production we can guarantee the absence of obsolescence. Our highly qualified engineer team works in close cooperation with our customers to develop custom designs and variations for their specific need.



SMD
- 0201 -> 8060
- COG, X7R, High Q, HT
- Voltage : 16V -> 15KV
- Polymer option
- Sn, Au, AgPd term



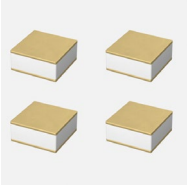
STACKS
- High power
- Low volume
- High reliability



RADIALS
- Encapsulated
- Dipped
- Severe environment
- Historical design



NON MAGNETIC
- Cu-Sn termination
- All SMD available
- Medical application
- High Tesla



MICROELECTRONIC
- Vertical layer 0303
- Au termination for bonding
- 0202 single layer (2024)



FILTERS
- EMI M2F MCF MPF series
- High precision
- Large currents



SPECIAL DESIGN
- Barcap capacitors
- Capacitors arrays
- Larges cases



CUSTOMS
- Very high tension 32K
- Any value
- Any size
- Any Voltage



SnPb/SAC
- Dipped or electrolytic
- Medical application
- Space application

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SRT MICROCÉRAMIQUE
MLCC CAPACITORS

SERVICES

Thanks to our cutting edge industrial equipment to produce MLCCs, we also offer a large range of services to our partners : full silver-nickel/tin termination process of various electronic components, termination change to lead/silver for medical and space applications, precision sorting and taping, testing and burn-in for high Reliability needs.

TERMINATION	PRECISION SORTING	BURN IN/TESTING	TERMINATION CHANGE	TAPING	SOURCING
Various SMD components Medical, Space application	Up to 0,03%	High Reliability test program	Ag/Pd Sn/Pb Cu/Sn SAC, Au Medical, Space applications	We can put on reel any kind and any volume of components	Passive and active components from multiple source at best price

THEY TRUST US

Over the years, we developed close relationships with large international groups and high technology companies, for which we provide unique services and custom products.

Our relationship is based on a culture of trust, service and open communication.

MARKETS APPLICATIONS

AEROSPACE · INDUSTRIAL · MEDICAL · ENERGY · RAIL · SPACE · TELECOM · MILITARY

QUALITY AND CERTIFICATIONS

In order to ensure the highest reliability to our customers our quality process includes a full traceability, 100% visual and electrical test and burn-in. For special requirements we offer standard and specific qualification programs including, thermal cycling, humidity test, life test, thermal shock, vibration test, shear test, pull test...

ISO 9001 BUREAU VERITAS Certification · REACH · RoHS

We follow internally AECQ200 and MIL-STD-202 testing. SRT-Microcéramique is ISO-9001 since 2002. We are REACH and conflict of minerals compliant. Most of our products are ROHS certified.

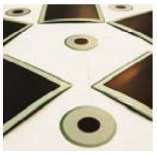
PASSIVE AND THERMAL SOLUTIONS

Our distribution branch Milton Ross Composants, in addition to our own ceramic production can offer the full range (except tantalum) of capacitors (film, electrolytic) and resistors (thick film, thin film, wirebound) through our partnership with specialized manufacturers (mainly European) offering the same high value product, high voltage, high precision, large values, custom products with always the shortest lead time.

MRC Milton Ross Composants · F&T FTCAP Fischer & Tausche Capacitors · Leclanché Capacitors · srt Resistor Technology · RIEDON

INNOVATION : HYDROGEN FUEL

In addition to our constant R&D to improve and innovate in our MLCC discipline we are leveraging our unique ceramic process knowledge to develop in collaboration with the CEA an innovative ceramic fuel cell production line offering the highest performance of the market.



cea

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GENERAL INFORMATION

Company 2
Services 3
Table of Content 4
Dielectric Types 6
Terminations details 7
Storage and Soldering 8
Footprint 12
How to order, Reliability, Sorting options 13
Packaging dimension and quantity 14
High Reliability Screening Levels 15
Tests and Qualifications 16
Tests and Qualifications Space applications 17
Construction 18
Regulation and compliance 19

SMD LOW VOLTAGE

SMD Low Voltage Class I 20
SMD Low Voltage N2T 24
SMD Low Voltage Class II 28
High Capacitance capacitors 32
Low Inductance Capacitors Class II 35

SMD HIGH VOLTAGE

SMD High Voltage Class I 38
SMD High Voltage N2T 42
SMD High Voltage Class II 46
SMD Pulse Energy Capacitor 50
SMD Very High Voltage 51

NON MAGNETIC

Non Magnetic SMD 52

SPACE MEDICAL APPLICATION

Space Medical application 53

HIGH TEMPERATURE

SMD High Temperature Class I 54
SMD High Temperature Class II 56

SAFETY CAP

Safety Certified MLCC 58

HIGH Q

MLCC High Q 60
MLCC High Q RF Power 63
MLCC High Q Design Kits 68

MICROELECTRONIC

RF DECOUPLING X7R Vertical Electrodes Capacitor 69
SMD Gold Termination 71

This document is subject to change without notice.

FILTERS

EMI MCF Filter 73
EMI M2F Filter 75
EMI MPF Filter 77

STACKED

STACKED CAPACITOR High Power 79
STACKED CAPACITOR High Voltage 82
STACKED CAPACITOR Vertical 85
STACKED CAPACITOR High Compact 88

THROUGH HOLE

RADIAL CAPACITOR Dipped High Power 91
RADIAL CAPACITOR Dipped High Voltage 93
RADIAL CAPACITOR Encapsulated 95
AXIAL CAPACITOR Encapsulated 97
4 LEADS CAPACITOR Encapsulated 99

CUSTOM PRODUCTS

CUSTOM PRODUCTS 101

CROSS REFERENCES

SMD CAPACITORS 102
RADIAL CAPACITOR Dipped 104
RADIAL CAPACITOR Encapsulated 105
AXIAL CAPACITOR Encapsulated 106
STACKED CAPACITOR Horizontal 107
STACKED CAPACITOR Vertical 108
FILM CAPACITORS 109

This document is subject to change without notice.

Dielectric Types

Different types of dielectrics display very different behaviours when it comes to withstanding power and heat, and don't demonstrate the same capacitance potential. SRT-Microcéramique proposes a wide range of ceramics. You'll find in the page below more information about what type of ceramic is better suited to your needs.

Class I Dielectrics

Class I Dielectrics are the most stable type and are used when the application demands highly stable performance and cannot allow electrical noise or dielectric loss. Variations of voltage and temperature have minimum consequences on this class of dielectrics. Consequently, they are most used for DC blocking, decoupling applications as well as filtering with low capacitance.

Q (Code Q)

- High Q (>2000)
- RF application up to 30 Ghz
- High Current

NP0 (Code A)

- Most stable type
- Lower capacitance
- Good for avoiding electrical noise

Class I N2200 Dielectrics

Class I stability with close to Class II volumetric capacitance

N2T (Code P)

- Ultra stable
- No piezo electric effect
- High current pulse discharge

Class II Dielectrics

Class II Dielectrics display stable performance and possess a better volumetric efficiency than class I. Thus, they are used in bypassing, filtering, coupling and decoupling applications.

X7R (Code Y)

- Good volumetric efficiency
- High capacitance
- Stable

BX/BY (Code X/2C1)

- Improved ESR
- Better voltage coefficient
- MIL specifications

X7S/X7T/X6S/X5R/Y5V (Code T/W/R/S/V)

- Highest capacitance per volume
- Less stable
- Low voltage

	Class I			Class II								
Dielectric	High Q	NP0/COG	N2T	X7R	BX	2C1	X5R	X7S	X6S	X7T	Z5U	Y5V
SRT Code	Q	A	P	Y	X	BY	R	T	S	W	U	V
Type	Ultra Stable			Stable								
Temperature Range	-55°C +125°C (250°C)		-55°C +125°C				-55°C +85°C	-55°C +125°C	-55°C +105°C	-55°C +125°C	+10°C +85°C	-30°C +85°C
T° Coefficient no DC applied	± 30ppm		2200ppm ± 350	± 15%		± 20%	± 15%	± 22%		+22% -33%	+22% -56%	+22% -82%
T° Coefficient rated DC applied	-			-	+15 -25%	+20 -30%	-					
Dielectric constant	10-100		450	2000-3000			3000-20000					
Dissipation Factor	0.01%	0.05% 0.1%		1% 3.5%			2.5% 15%				5% 20%	
IR 25°C/Un	100 GΩ or 1000 Ω-F whichever is less						10 GΩ or 100 Ω-F whichever is less					
Dielectric strenght ≤200V	2.5 Ur 5 seconds 50mA max											
Dielectric strenght <500V	Ur + 250V 5 seconds 50mA max											
Dielectric strenght <1000V	1.5 Ur 5 seconds 50mA max											
Dielectric strenght ≥1000V	1.2 Ur 5 seconds 50mA max											
Piezo effect	No piezo			piezo effect								
Ageing	None			2% per decade	1% per decade		4% per decade	5% per decade			7% per decade	
Tolerance	± 0.25pF ± 0.5pF ± 1% ± 2% ± 5% ± 10%			± 5% ± 10% ± 20%			± 10% ± 20%				-20% +80%	
Termination	X,F,P,C,W,H,I						X,P,G,W,H,I					

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Terminations details

All our capacitors are available with a wide range of termination to fit your specific needs :

Tin (Code X)

- Standard termination
- ROHS
- Dipped Silver, Nickel barrier, Sn plated
- Process qualified according to JDEC JESD201A regarding whisker mitigation

Polymer (Code P)

- Flexible termination
- Improve bending tolerance
- ROHS
- Avaible on all components
- Designed for gluing

Silver-Palladium (Code F)

- Excellent contact properties
- Resist to leaching during hand soldering
- Dipped Silver-Palladium
- ROHS

Gold Flash (Code W)

- Glueing
- ROHS
- Max 0.2µm Gold Flash

Gold Thick (Code G)

- Microelectronic applications
- Wire Bonding/glueing
- ROHS
- Min 2.5µm Gold

Non Magnetic (Code C/CP)

- High Tesla Applications
- IRM, particule accelerators
- Dipped Silver, Copper barrier, Sn plated
- ROHS

Solderable Silver (Code Q)

- Medical or space application
- Whiskers free
- High temperature
- ROHS

Dipped SAC 305 (Code S/SP)

- Sn96.5 Ag3 Cu0.5
- Medical, space and oil application
- Whiskers free
- High reliability
- ROHS

Dipped Tin-Lead (Code H/HP)

- Sn62 Pb36 Ag2
- Medical or Oil application
- Whiskers free
- High reliability

Electrolytical Tin-Lead (Code I/IP)

- Minimum Pb 5%
- Medical or space application
- Whiskers free
- High reliability

TERMINATION	CODE	ROHS	NON MAGNETIC	IMPROVED BOARD FLEX	SOLDERING	GLUING	WIRE BONDING
Sn	X	O			O		
Polymer	P	O		O	O		
AgPd	F	O			O	O	
Gold Flash	W	O			O	O	
Gold Thick	G	O			O	O	O
Non Magnetic	C	O	O		O		
Solderable Silver	Q	O			O		
Dipped SnPb	H				O		
Dipped SAC	S	O			O		
Electrolytical SnPb	I				O		
Lead	-	O		O	O		
Non Magn Lead	C	O	O	O	O		
Lead Frame	-	O		O	O		
Non Magn Lead Frame	C	O	O	O	O		

O = COMPLIANT

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STORAGE

To preserve the solderability of terminations, observe the following storage conditions :

- Indoors at 5–40°C and 20–70% relative humidity.
- Free from harmful gases (sulfuric acid, ammonia, hydrogen sulfide, chlorine).
- Original sealed packaging until use; re-seal opened packs as soon as possible.

Tape-and-reel products must be stored away from direct sunlight, which can degrade the carrier tape or the cover adhesive.
Use within 12 months from shipment. For longer storage, perform a solderability check before mounting (terminal Sn dipping test per IPC J-STD-002).

HANDLING

MLCCs are dense, hard, brittle ceramic bodies, abrasive against soft materials. They are sensitive to mechanical shock and to PCB bending stress after assembly. Handle with care to avoid cracks, chips, and metallization damage :

- Use plastic or vacuum tweezers. Metal tweezers can scratch the terminations or chip the ceramic edge.
- Do not stack loose parts in trays — chip-against-chip contact during transport produces micro-cracks.
- Tape-and-reel packaging is suitable for automatic pick-and-place equipment.
- For SMD stacks, large case sizes, and radial leaded parts, single-piece handling and dedicated trays are recommended.

After mounting, avoid board flexing during depanelling, tightening, or testing. Chip cracks induced by board bending remain the dominant failure mode in service.

PREHEAT

Preheat brings the entire assembly to a uniform intermediate temperature before solder melting, limiting the thermal gradient at the moment the solder reaches liquidus. The temperature differential between the solder and the component surface (ΔT) must be kept as small as possible.

- Standard ramp-up rate : ≤ 3°C/s.
- Fragile profile ramp-up rate : ≤ 2°C/s.
- The preheat plateau (Tsmin to Tsmax for reflow; Tpre for wave and vapour phase) must be held long enough for the component body to reach equilibrium with the board.

Refer to the applicable profile graph and parameter table.

SOLDERING FLUX

Use mildly activated rosin (RMA) or no-clean (RA without active halides) fluxes. Avoid strongly activated or water-soluble fluxes, which leave corrosive residues incompatible with high-reliability applications.

- Halide content < 0.2 wt% (chlorine equivalent).
- Rosin-based, pH-neutral residues.
- For AgPd terminations (code F), use fluxes free of strong organic acids to limit silver leaching during the time above liquidus.

Solder volume must be controlled to avoid stress between the solder fillet, the component, and the substrate. Excessive solder height transmits board flex directly to the ceramic body and is the most frequent cause of installation cracks.

SOLDERING TYPE

The following solder alloys are compatible with SRT MLCCs:

- SnPb eutectic (Sn63/Pb37, Sn62/Pb36/Ag2) — standard for SnPb terminations (code S). Peak ≤ 215°C.
- Lead-free SAC305 (Sn96.5/Ag3.0/Cu0.5) and equivalent standard for Sn terminations (codes X). Peak ≤ 245°C.
- High-Ag SnPb (≥ 2% Ag) — recommended for AgPd terminations (code F) to limit silver leaching.
- Au-Sn eutectic (Au80/Sn20) — required for bonding gold terminations (code G). Reflow under N_2 atmosphere is mandatory.

For non-magnetic terminations (code C), use SnPb or lead-free SAC305 only.

SOLDERING ATMOSPHERE

SRT MLCCs reflow normally in air. Nitrogen atmosphere (N_2, O_2 ≤ 1000 ppm) is not required but is common practice in high-reliability assembly (space, defense, medical) where it improves solder wetting and limits oxidation, especially in lead-free reflow at high temperatures. Specific termination considerations:

- AgPd terminations (code F) — silver leaching is the primary concern. SRT recommends SnPb solder with ≥ 2% Ag content. N_2 atmosphere is helpful but does not eliminate leaching. For applications requiring no soldering stress, conductive silver epoxy is the preferred attachment method.
- Gold terminations (code G/W) — N_2 atmosphere is recommended to limit gold dissolution in the solder and the growth of brittle $AuSn_4$ intermetallics. Time above liquidus must be minimized.
- Microflex polymer terminations — N_2 recommended to preserve the polymer matrix at peak temperature.

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SOLDERING HEIGHT

Solder fillet height must comply with IPC-A-610 (Class 2 or 3 per application) :

- Minimum solder climb on the termination : 25% of chip thickness or 500 µm, whichever is less.
- Maximum solder climb : 100% of chip thickness, not exceeding the top metallization wrap.
- For SMD stacks and radial leaded parts, refer to the part-specific datasheet for recommended footprint dimensions and fillet geometry.

Excessive fillet height transmits PCB bending forces to the ceramic body and is the leading cause of in-service crack failures.

COOLING

After soldering, cool the assembly gradually to room temperature :

- Standard ramp-down rate : ≤ 6°C/s for SnPb reflow, ≤ 4°C/s for lead-free reflow.
- Fragile profile ramp-down rate : ≤ 2°C/s.
- Natural cooling in still air is recommended.
- Forced cooling, immediate fluid immersion, or direct contact with cold surfaces are prohibited — the resulting thermal shock causes ceramic and solder joint cracks.

CLEANING

When a cleaning step is used, all flux residues must be removed to prevent surface electrolytic corrosion. Compatible cleaning processes :

- Vapour-phase or spray cleaning with electronic-grade solvents (semi-aqueous, modified alcohol, or fluorinated).
- Ultrasonic cleaning is acceptable for chip MLCCs, but must be avoided for SMD stacks and radial leaded parts — mechanical resonance of the lead-frame or leadwires can fatigue the solder joint.
- Temperature differential between the assembly and the cleaning fluid : ΔT ≤ 100°C.
- Immersion time ≤ 5 min for vapour solvents, ≤ 2 min for ultrasonic.

No-clean fluxes leave benign residues and do not require cleaning, provided the chosen flux is qualified for the application's reliability requirements.

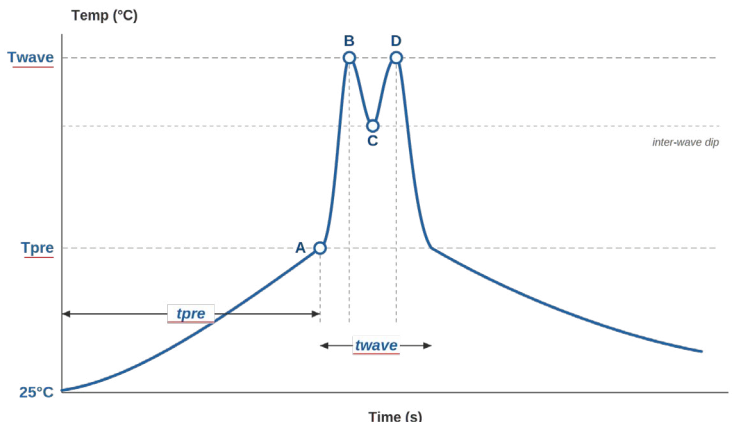
SOLDERING CONDITIONS

Product family	wave	Reflow standard	Reflow fragile	Hand soldering [1]
Chip MLCC 0201, 0402, 0505, 0603	✓	✓		✓
Chip MLCC 0805, 1111, 1206, 1210 — t < 1.25 mm	✓	✓		✓
Chip MLCC 0805, 1111, 1206, 1210 — t ≥ 1.25 mm		✓		✓
Chip MLCC 1812, 2220		✓	recommended	✓
Chip MLCC ≥ 2225 (3640 to 80150)			required	with extreme care
EMI filters (≤ 2220)		✓		✓
High compact and SRMC/SRTV stacks ≤ 2220		✓	recommended	✓
SRMC/SRTV stacks > 2220			required	with extreme care
Radial leaded (through-hole)	✓ [2]			✓ [3]

[1] Hand soldering is always a last resort; refer to the Hand soldering section.
[2] Wave possible only for standard radial sizes; preheat to within 100°C of wave temperature.
[3] Mandatory part preheat to 150°C minimum; for HV radials, within 50°C of iron temperature.

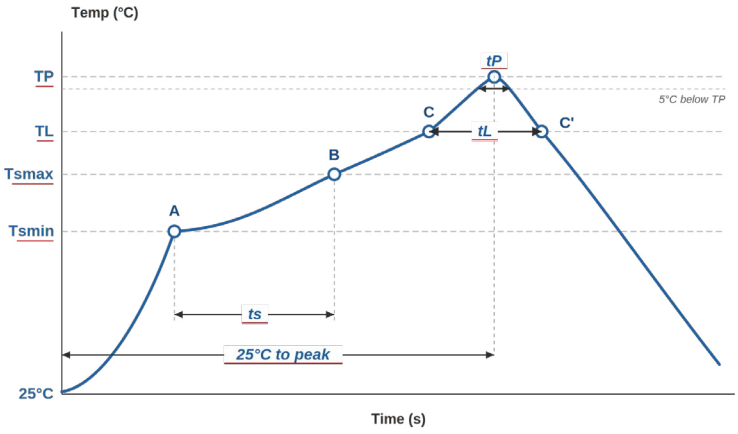
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WAVE SOLDERING PROFILE



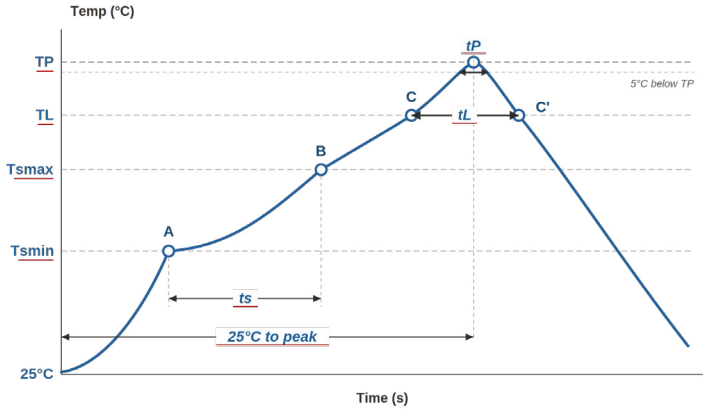
Parameter	Standard
Tpre (A) – bottom-side preheat	100–130°C
Ramp-up to A	≤ 3°C/s
tpre – preheat dwell	60–120 s
Twave (B / D) – wave temperature	235–260°C
Number of waves	2 (turbulent + laminar)
Contact time per wave	1–3 s
twave – total contact time	≤ 10 s
Inter-wave dip (C)	≥ 200°C
Ramp-down rate (forced air)	≤ 4°C/s
Max passes	2
Atmosphere	N_2 recommended for AgPd terminations
Note	Not applicable to fragile parts. Refer to reflow profile.

LEADFREE REFLOW SOLDERING PROFILE (SAC305)



Parameter	Standard	Fragile
Tsmin (A)	150°C	150°C
Tsmax (B)	190°C	190°C
ts (A→B)	60–120 s	≥ 120 s
Ramp-up rate	≤ 3°C/s	≤ 2°C/s
TL (C)	217°C	217°C
tL (C→C')	40–90 s	30–60 s
TP	245°C max	240°C max
tP (within 5°C of TP)	≤ 10 s	≤ 10 s
Ramp-down rate	≤ 4°C/s	≤ 2°C/s
25°C to peak	≤ 8 min	≤ 8 min
Max reflow passes	3	2
Atmosphere	air or N_2	N_2 recommended

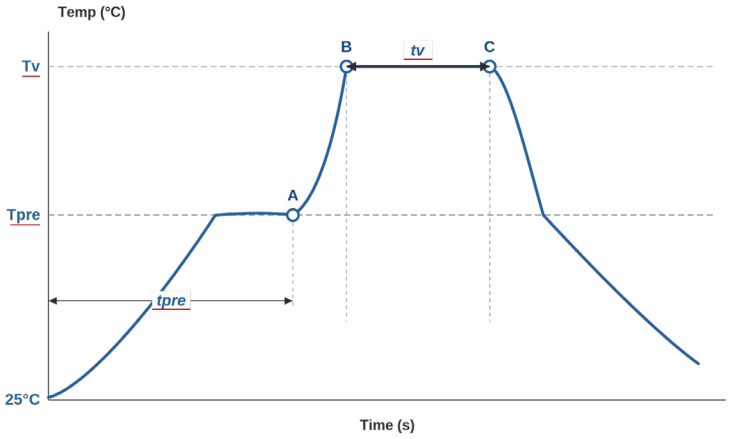
SNPB REFLOW SOLDERING PROFILE



Parameter	Standard	Fragile
Tsmin (A)	100°C	100°C
Tsmax (B)	150°C	150°C
ts (A→B)	60–120 s	≥ 120 s
Ramp-up rate	≤ 3°C/s	≤ 2°C/s
TL (C)	183°C	183°C
tL (C→C')	60–90 s	30–60 s
TP	215°C max	215°C max
tP (within 5°C of TP)	≤ 10 s	≤ 10 s
Ramp-down rate	≤ 6°C/s	≤ 2°C/s
25°C to peak	≤ 6 min	≤ 6 min
Max reflow passes	3	2
Atmosphere	air or N_2	N_2 recommended

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VAPOUR PHASE REFLOW PROFILE



Parameter	Standard	Fragile
Tpre (A) – preheat plateau	100–130°C	100–130°C
Ramp-up to A	≤ 3°C/s	≤ 2°C/s
tpre – preheat dwell	60–120 s	≥ 120 s
Tv (B / C) – vapor temperature	215°C (SnPb) or 230°C (SAC305)	215°C (SnPb) or 230°C (SAC305)
tv (B→C) – time in vapor	30–60 s	30–45 s
Ramp-down rate (after C)	≤ 4°C/s	≤ 2°C/s
Max reflow passes	3	2
Atmosphere	process vapor (inert)	process vapor (inert)

HAND SOLDERING

Hand soldering is not recommended; localized thermal shock can crack the ceramic body. Hot-air pencil reflow is preferred for rework. When a soldering iron must be used, observe the following procedure :

- Soldering iron tip diameter ≤ 3.0 mm; wattage ≤ 20 W.
- Pre-heat the component to 150°C minimum before iron contact.
- Iron tip temperature ≤ 280°C; contact time ≤ 5 s per termination.
- Pre-tin the iron tip with the required volume of solder; do not feed solder wire onto the part.
- Do not touch the ceramic body directly with the iron tip — apply heat to the termination metallization only.
- After soldering, allow the part to cool gradually at room temperature.
- Forced cooling is not allowed.

For fragile parts (SMD stacks > 2220, case sizes ≥ 2225, radial leaded HV, AgPd or gold terminations), additional precautions apply :

- Preheat the part to within 50°C of the iron tip temperature.
- Total iron contact time ≤ 3 s per termination.
- Single hand-soldering operation only; rework requires part replacement.

RADIAL LEADED SOLDERING

Through-hole radial leaded capacitors are soldered by wave or by hand. Reflow is not applicable to leaded parts — no surface pads are available for solder paste deposition.

For wave soldering of standard radial sizes :

- Preheat the PCB underside to within 100°C of the wave temperature.
- Wave temperature : 235–260°C; total contact time ≤ 10 s.
- Two waves (turbulent + laminar) typically applied.

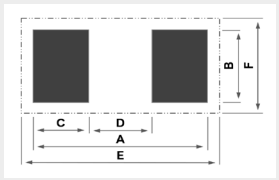
For high-voltage radials and large lead diameters, wave soldering **is not recommended**. Use hand soldering with the procedure above, including :

- Part preheat to within 50°C of the iron tip temperature.
- Iron contact time ≤ 5 s per lead.
- Allow each lead to cool before soldering the next.

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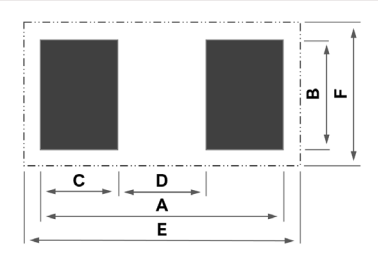
TYPICAL SMD FOOTPRINT WAVE SOLDERING

SIZE	FOOTPRINT DIMENSIONS IN MM					
	A	B	C	D	E	F
0603	2.40	1.00	0.70	1.00	3.10	1.40
0805	3.20	1.30	0.90	1.40	4.10	1.85
1206	4.80	1.80	1.25	2.30	5.90	2.25
1210	4.80	2.70	1.25	2.30	5.90	3.15



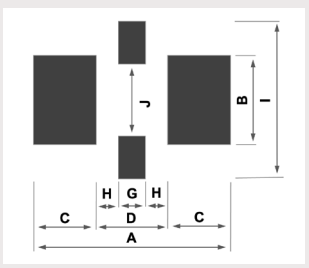
TYPICAL SMD FOOTPRINT REFLOW SOLDERING

SIZE	FOOTPRINT DIMENSIONS IN mm					
	A	B	C	D	E	F
0201	1.00	0.40	0.30	0.40	1.25	0.85
0204	1.00	1.20	0.30	0.40	1.25	1.65
0402	1.50	0.60	0.40	0.70	1.75	1.05
0306	1.30	1.80	0.40	0.50	1.55	2.25
0404	1.50	1.20	0.40	0.70	1.75	1.65
0504	1.90	1.20	0.40	1.10	2.15	1.65
0505	1.90	1.50	0.50	0.90	2.15	1.95
0508	1.90	2.20	0.50	0.90	2.15	2.75
0603	2.30	1.00	0.60	1.10	2.55	1.55
0612	2.30	3.40	0.60	1.10	2.55	3.95
0805	2.90	1.45	0.90	1.10	3.15	2.00
1206	4.10	1.80	0.90	2.30	4.35	2.45
1210	4.10	2.70	1.00	2.10	4.35	3.35
1808	5.50	2.20	1.20	3.10	5.75	2.85
1812	5.50	3.40	1.20	3.10	5.75	4.05
1825	5.50	6.70	1.20	3.10	5.75	7.35
2211	6.80	3.00	1.40	4.00	7.05	3.65
2220	6.80	5.40	1.40	4.00	7.05	6.05
2225	6.80	6.70	1.65	3.50	7.05	7.50
2525	7.70	6.75	1.65	4.40	7.95	7.55
2825	8.40	6.70	1.65	5.10	8.65	7.50
3033	9.00	8.80	1.95	5.10	9.25	9.60
3640	10.55	10.60	2.25	6.05	10.80	11.40
4017	11.60	4.60	2.35	6.90	11.85	5.40
4020	11.60	5.45	2.35	6.90	11.85	6.25
4040	11.60	10.70	2.35	6.90	11.85	11.50
40100	11.60	26.20	2.35	6.90	11.85	27.00
5550	15.50	13.20	2.35	10.80	15.75	14.00
6080	16.70	20.80	2.35	12.00	16.95	21.60
6660	18.30	15.70	2.35	13.60	18.55	16.50
8060	21.90	15.70	2.35	17.20	22.15	16.50
80150	21.90	38.90	2.35	17.20	22.15	39.70
HIGH COMPACT 1210	4.15	2.60	1.15	1.75	5.05	3.30
HIGH COMPACT 1812	5.75	3.40	1.35	2.70	6.70	4.20
HIGH COMPACT 2220	6.80	5.50	1.70	2.80	7.70	6.30



TYPICAL FILTER FOOTPRINT REFLOW SOLDERING

SIZE	FOOTPRINT DIMENSIONS IN mm							
	A	B	C	D	G	H	I	J
0603	2.30	1.00	0.55	1.20	0.60	0.30	1.40	0.60
0805	2.90	1.45	0.70	1.50	0.80	0.35	1.85	1.05
1206	4.10	1.80	0.95	2.20	1.00	0.60	2.20	1.40
1806	5.50	1.80	1.15	3.20	1.50	0.85	2.20	1.40
1812	5.50	3.40	1.15	3.20	1.50	0.85	3.90	3.00
2220	6.80	5.40	1.25	4.30	2.00	1.15	7.20	5.00



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ORDERING INFORMATION

SRMC	-	0603	Y	102	J	A	-	L	040	-	-	-	B	-
SERIE	HT	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINAISON	FORM	HEIGHT	LEADS	COATING/ MARKING	CUR-RENT	PACKAGING	SPECIAL
- FK FH SREV MCF M2F MPF SRMC SRHS SRHD SRTV SR SA SF	- H = High Temp	0201 0204 0402 0303 0306 0404 0504 0505 0508 0603 0612 0805 1206 1210 1808 1812 1825 2211 2220 2225 2325 2525 2825 3033 3640 4040 40100 5550 6080 6560 6660 7274 7565 8060 80150 15080 40 to 94	Q = High Q A = NP0 P = N2T X = BX Y=X7R BY=2C1 S = X5R T = X7S R = X6S W = X7T U = Z5U V = Y5V	Expressed in picofarads (pF) The first two digits are significant, the third digit gives the number of noughts Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ± 0.05pF B = ± 0.1pF C = ± 0,25pF D = ± 0,5pF/0.5% E = ± 0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20% Z = -20% +80%	V = 2.5V Y = 4V R = 6.3V Q = 10V J = 16V X = 25V Z = 35V A = 50V U = 63V B = 100V N = 150V C = 200V P = 250V D = 300V E = 500V F = 630V G = 1000V 1K2 = 1200V 1K4 = 1400V O = 1500V 1K7 = 1700V 1K8 = 1800V H = 2000V T = 2500V I = 3000V M = 3600V K = 4000V L= 5000V 6 = 6000V S = 7200V 7K5 = 7500V 8 = 8000V 10 = 10000V 12 =12000V 15 = 15000V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) CP = Copper Polymer Tin (Non magnetic) W = Nickel Gold Flash G = Nickel Gold Thick HP = Dipped SnPb Polymer H = Dipped SnPb S = Dipped SAC SP = Polymer Dipped SAC I = Electrolytic SnPb IP = Polymer Eletrolytical SnPb Q = Solderable Silver - = Tin Plated Lead Frame N = SnPb Plated Lea Frame M = Microstrip A = Axial Ribbon R = Radial Ribbon U = Axial Wire V = Radial Wire CM = Microstrip (Non magnetic) CA = Axial Ribbon (Non magnetic) CR = Radia Ribbon (Non magnetic) CU = Axial Wire (Non magnetic) CV = Radial Wire (Non magnetic)	- J L D M T = 2 leads U = 4 leads JP = plain J Lead	- 020 030 040 050 060 070 080 090 100 110 120 130 140 160 180	- 2 to 10 B	- I = Conformal-Coating H = Epoxy Coating M = Marked R = Resistor	- 1 2	B = Reel V = Bulk T = Tray Package W = Waffle Pack	- BM = BME Dxx = Reliability spec Exx = Sorting spec

RELIABILITY/SCREENING LEVEL

OPTIONAL CODE	TESTING DETAIL
D20	Generic AECQ-200
D55681	DPA & 100% Burn-In Per Group A of MIL-PRF-55681
D123	Group A & B Per MIL-PRF-123
D3009	DPA & 100% Burn-In according to ECSS-3009 for space application
COTS1	Class 1 COTS+ according to ECSS-Q-ST-60-13C-Rev1
COTS2	Class 2 COTS+ according to ECSS-Q-ST-60-13C-Rev1
COTS3	Class 3 COTS+ according to ECSS-Q-ST-60-13C-Rev1
D03	High Temperature application Burn-In 100% 125° 168H 2Un, 6.5% AQL
D05	Burn-In 100% 125° 168H 2Un, less than 5% default allowed VRT CEI 68-2-14 10 cycles 0V -55°C/+125°C, less than 5% default allowed 20 pieces life test 125°C, 1.5Un, 1 default allowed

SORTING

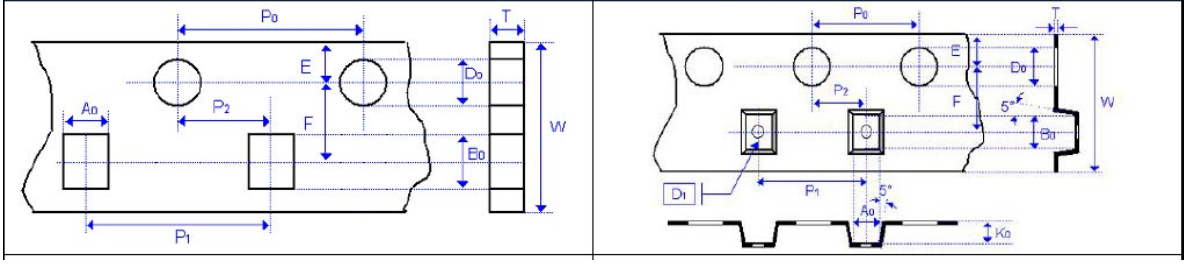
OPTIONAL CODE	SORTING DETAIL
E01	2 cells sorting 0 to +2,5 & +2,5 to +5 (% or pF accoding to value)
E02	4 cells sorting -5 to –2,5 ; -2,5 to 0 ; 0 to +2,5 & +2,5 to 5 (% or pF accoding to value)
E21	2% cells

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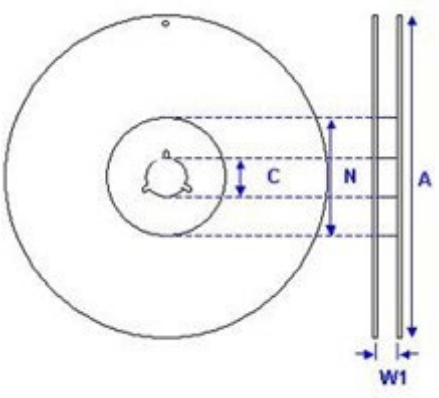
PACKAGE DIMENSION AND QUANTITY

SIZE	THICKNESS	PAPER TAPE		PLASTIC TAPE	
		7 REEL	13 REEL	7' REEL	13 REEL
0201	0.3 ± 0.05	10 K	50 K		
0402	0.5 ± 0.05	10 K	50 K		
0504	0.6 ± 0.05			4K	15K
	0.9 ± 0.05			4K	15K
0603	0.7 ± 0.07	4K		4K	15K
	0.9 ± 0.07	4K	15K	4K	15K
	0.9 ± 0.07			4K	15K
	1.1 ± 0.07			4K	15K
0805	0.8 ± 0.07	4K	15K	4K	15K
	0.9 ± 0.07			4K	10K
	1.1 ± 0.07			3K	10K
	1.3 ± 0.07			3K	10K
1206	1.1 ± 0.1			3K	10K
	1.4 ± 0.1			3K	8K
	1.8 ± 0.1			2K	8K
1210	1.4 ± 0.1			3K	8K
	1.8 ± 0.1			1K	6K
1808	1.4 ± 0.1			3K	8K
1812	1.6 ± 0.1			2K	8K
	2.1 ± 0.1			1K	6K
	2.8 ± 0.1			1K	6K
2220	1.8 ± 0.1			1K	6K
	3.0 ± 0.1			0.5K	2K
2225	3.0 ± 0.1			0.5K	2K
3033	3.0 ± 0.1			0.5K	2K
3640	3.0 ± 0.1			0.5K	2K
5440	3.9 ± 0.1				0.5K - 1K
HIGH COMPACT 1210				1K	6K
HIGH COMPACT 1812				1K	6K
HIGH COMPACT 2220				0.5K	2K

EMBOSSED TAPE DIMENSIONS



REEL SIZE	7	7	13
C	13.0 +0.5/-0.2	13.0 +0.5/-0.2	13.0 +0.7/-0.3
W1	8.4 +1.5/-0	12.4 +2.0/-0	8.4 +2.0/-0
A	178.0 ±0.10	178.0 ±0.10	330.0 ±1.0
N	60.0 ±1.0	80.0 ±1.0	100 ±1.0



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PRODUCTION CONTROL

Comparaison of the Screening/Testing of the standard and High Reliability SRT-Microcéramique components

	TEST/STRESS	STANDARD SMD	STACKS SRMC RADIALS	HIGH TEMPERATURE	IAW ESA-ESCC3009	COTS1	COTS2	COTS3	IAW MIL-PRF-55681 GROUP A	IAW MIL-PRF-123 GROUP A
	CODE			D03	D3009	COTS1	COTS2	COTS3	D55681	D123
	SCOPE	**PME MLCC X7R, BX, NPO, N2T, High Q**	**Encapsulated, Dipped radial and Stacks SRMC**	**Type 1, Type 2 Chips**	**SRT PME BME, Radials, Stacks, X7R, BX, N2T, NPO, High Q**	**Class 1 BME Chips**	**Class 2 BME Chips**	**Class 3 BME Chips**	**SRT PME BME X7R, NPO, BX, N2T, High Q**	**SRT PME BME X7R, BX, NPO, N2T, High Q**
PROCESS / SCREENING	**Burn-In**		100% Chips 24H +Stack 48H Tmax 2Un PDA 6.5%	100% 168H Tmax 2Un PDA 6.5%	100% 96H Tmax 2Un PDA 5%	100% 96H Tmax 2Un PDA 5%	100% 96H Tmax 2Un PDA 5% for non AEC-Q200	100% 96H Tmax 2Un PDA 5% for non AEC-Q200	100% 100H Min Tmax 2Un PDA 8%	100% 168H Min 0.1%/1pc last 48H 125°C 2Un PDA 5%
	Capa, DF, IR, VP (25°C)	100%	100%	100%	100%	100%	100%	100%	100%	100%
	IR (125°C)								Sample	Sample
	Voltage Breakdown	10 pcs/lot	10 pcs/lot	10 pcs/lot	10 pcs/lot	10 pcs/lot	10 pcs/lot	10 pcs/lot	10 pcs/lot	10 pcs/lot
	Dimension	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot
	DPA	per lot	per lot	per lot	per lot	per lot	per lot	per lot	per lot	per lot
	Visual	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Solderability	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot
	Leaching	5 pcs/lot	5 pcs/lot	5 pcs/lot	6 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot
	Termination thickness	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot	5 pcs/lot
	TC	per ceramic lot	per ceramic lot	per ceramic lot	per ceramic lot and in LAT	in LAT	in LAT	in LAT	per ceramic lot	per ceramic lot
	LAT	**On request**	**On request**	**On request**	**Flying Part**	**Flying part**	**Flying part**	**Flying part**	**On request**	**On request**
LAT SUBGROUP 1	**Mounting**				20 serialized pcs on PCB					
	Thermal Shock				10 Cycles 30mn/1mn					
	Humidity				For Un<500V 1000h 85/85					
	Criteria				No visual/electrical default					
LAT SUBGROUP 2A	**Mounting**				20 serialized pcs on PCB	20 serialized pcs on PCB	20 serialized pcs on PCB	20 serialized pcs on PCB for non AEC-Q200		
	Operationnal Life				1000h ±24 125°C 2Un Un<500V 1.5Un Un=500V 1.3Un 500V<Un≤1250V 1Un Un>1250V	1000h ±24 max T° 2Un Un<500V 1.5Un Un=500V 1.3Un 500V<Un≤1250V 1Un Un>1250V	1000h ±24 max T° 2Un Un<500V 1.5Un Un=500V 1.3Un 500V<Un≤1250V 1Un Un>1250V	1000h ±24 Max T° 2Un Un<500V 1.5Un Un=500V 1.3Un 500V<Un≤1250V 1Un Un>1250V		
	Criteria				No visual/electrical default	No visual/electrical default	No visual/electrical default	No visual/electrical default		
LAT SUBGROUP 2B	Mounting				6 serialized pcs on PCB	6 serialized pcs on PCB non AEC-Q200				
	TC				IR at 125°C Cp at -55°C/20°C+125°C	IR at 125°C Cp at -55°C/20°C+125°C				
	Shear Test				5N 10s	5N 10s				
	Criteria				No visual/electrical default	No visual/electrical default				
LAT SUBGROUP 3	Mounting				6 pcs serialized	6 pcs serialized				
	Solderability				Solder bath 235°C 5s included in screening	Solder bath 235°C 5s included in screening				
	Permanence of Marking				ESCC24800 when applicable	ESCC24800 when applicable				
	Criteria				No visual/electrical default	No visual/electrical default				
	Thermal Cycle (optional)									
	Ultrasonic, Xray (optional)									

- **All components components can be proposed with SbPb termination (electrolytical I or Dipped H) with 5% min Pb for whisker mitigation**
- **Standard NiSn Termination is qualified according to JDEC JESD201A regarding whisker mitigation**
- **Other termination availabe Silver Palladium F, Solderable Silver Q, Thick Gold G, Flash Gold W, Non Magnetic Copper C, Polymer option P**
- **ECSS COTS framework is used to propose space ready components Class 1 to 3 based on SRT or customer chosen BME chips either AEC-Q200 (prefered) or non AEC-Q200. Size can start from 0201 and resistors can also be proposed and termination be changed.**
- **Specific High Reliability programs can be established to fit customer requirement for medical, defense, space, high stress applications.**

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RELIABILITY PRINCIPLES OVERVIEW GENERAL PRODUCTION

In order to guarantee highly reliable products to their customers, SRT-Microcéramique follows a strict quality policy which is explained below :

- According to AECQ philosophy, each component belongs to a family, which most restrictives members (four corners) have been fully qualified.
- PME components are produced in our Vendôme facility, with very stable process and equipments, in order to ensure Reliability and reproductibility.
- Reliability is based on batch tests, new product or equipment-specific qualifications and periodic requalifications.
- In addition to those regular tests, our quality departement launches regular accelerated tests to further deepens our reliability datas.
- Tests and qualifications of our standard products are based on AECQ methodology and are qualified according to the following limits.
- In accordance to AECQ methodology, specifics tests and limits can be adapted to fit our clients' needs.
- A whole range of stricter reliability tests can be offered for high Reliability products (burn-in, shocks, pulses...) for medical, space and defense applications.
- Based on our reliability database, FIT datas can be provided if necessary.

PRODUCTION CONTROL

Test conducted on each lot according to AECQ-200 framework

FREQUENCY	TEST/STRESS	REFERENCE	AEC-Q	DETAIL
100%	Capa, DF, IR	CECC-32100-4.6		according to datasheet
100%	Visual	CECC-32100-4.5	AEC-Q200-9	no visual defects
50/lot	DPA	SRT QC1302	AEC-Q200-5	internal component integrity
5/lot	Dimension	CECC-32100-4.5	AEC-Q200-5	according to datasheet
5/lot	Solderability	CECC-32100-4.11	AEC-Q200-18	0 fail
5/lot	Leaching	SRT QC1105		0 fail
5/lot	Termination Thickness	SRT QC1108		0 fail
10/lot	Voltage Breakdown	CECC-32100-4.6.4		0 fail
1/ceramic lot	Temperature coefficient	CECC 32100-Prgph4,7		according to datasheet

QUALIFICATIONS

Each component family has been qualified according to CECC and AECQ tests methodology, which are renewed on a periodic basis.

FREQUENCY	TEST/STRESS	REFERENCE	AEC-Q	DETAIL
Qualif	Electrical Characterization	CECC-32100-4.6 4.7	AEC-Q200-19	measure before test according to datasheet and after test according to post environmental limits
Qualif	Temperature Cycling	JESD22 Method-JA method 104	AEC-Q200-4	1,000 cycles -55°C to +125°C Measurement at 24 ± 2 hours after test conclusion
Qualif	Biased Humidity	MIL-STD-202 Method 103	AEC-Q200-7	1,000 hours 85°C/85%RH. Rated voltage. Measurement at 24 ± 2 hours after test conclusion
Qualif	Operational Life	MIL-STD-202 Method 108 condition D	AEC-Q200-8	1,000 hours at 125°C with apllied Voltage : 2xRV RV≤500V, 1.2xRV 500V<RV≤1250V, RV RV>1250V
Qualif	Terminal Strength	CECC-32100-4.8	AEC-Q200-6	1.8kg 60 seconds
Qualif	Vibration	MIL-STD-202 Method 204	AEC-Q200-14	5g 20min 12cycles 3 orientations 10-2000Hz
Qualif	Board Flex	CEC 32100-4.9	AEC-Q200-21	3mm Type 1, 2mm Type 2, Measurement at 24 ± 2 hours after test conclusion

POST ENVIRONMENTAL STRESS LIMIT

DIELECTRIC	DISSIPATION FACTOR (MAXIMUM)	CAPACITANCE SHIFT	INSULATION RESISTANCE
NPO	≤ 4 10-3	±2%	10% initial limit
N2T	≤ 6 10-3	±4%	10% initial limit
X7R	≤ 0.035	±15%	10% initial limit

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SPACE LEVEL COMPONENT SCREENED AND QUALIFIED ACCORDING TO ESCC-3009

SRT-Microcéramique can propose a wide range of BME and PME component from its catalog qualified and tested according to ESCC-3009 Revision 5 specifications for space applications. Both for development en evaluation and flight ready with full lot validation and ESCC standard documentation. Specific qualification programms can be included to meet final customer requirement.
SRT manufactured PME with standard production control or requalified source BME components directly or after termination change or mounting enter the following screening process :

SCREENING D3009

FREQUENCY	TEST/STRESS	REFERENCE	DETAIL
100%	Voltage conditioning	IEC Publication No. 60384-1 clause 4.23	100% 96H Tmax 2Un PDA 5%
100%	Capa, DF, IR, VP (25°C)	ESCC3009 Chart F3	According to datasheet
5/Lot	High and Low Temperatures Electri-	ESCC3009 Chart F3	According to datasheet, 0 fail or 100%
5/lot	Dimension	ESCC Basic Specification No. 20500	According to datasheet (done in manufacturing, requalification process)
5/lot	DPA	ESCC Basic Specification No. 23400	Internal component integrity
100%	Visual	ESCC Basic Specification Nos. 20400 and 20500	No defect
5/lot	Solderability	IEC Publication No. 60068-2-58	0 fail

LOT VALIDATION D3009

GROUP	NB PCS	TEST/STRESS	REFERENCE	DETAIL
SUBGROUP 1	20	**Mounting**	ESCC3009 8.6	20 serialized pcs on PCB
		Thermal Shock	ESCC3009 8.7, IEC No. 60068-2-14	10 Cycles 30mn/1mn
		Humidity	ESCC3009 8.2	For Un<500V 1000h 85/85 Un≥500V not applicable
		Criteria	ESCC3009	No visual/electrical default
SUBGROUP 2A	40	**Mounting**	ESCC3009 8.6	40 serialized pcs on PCB
		Operationnal Life	ESCC3009 Chart F4, IEC No. 60384-1 clause 4.23.	1000h ±24 125°C (optionnal 2000h) 2U U<500V I 1.5U 500≤U<1000 I 1.2U 1000≤U≤2000 I 1U U>2000
		Criteria	ESCC3009	No visual/electrical default
SUBGROUP 2B	6	Mounting	ESCC3009 8.6	6 serialized pcs on PCB
		TC	ESCC3009 8.10	IR at 125°C, CP at -55°C/25°C/125°C
		Shear Test	ESCC3009 8.7, IEC No. 60384-1	5N 10s
		Criteria	ESCC3009	No visual/electrical default
SUBGROUP 3	6	Solderability	ESCC3009 8.11, IEC No. 60068-2-58	Solder bath 235°C 5s ncluded in screening
		Permanence of Marking	ESCC3009 8.12	ESCC24800 when applicable
		Criteria	ESCC3009	No visual/electrical default

LAT3=LVT3 = Subgroup 3/LAT2=LVT2 = Subgroup 2A + Subgroup 2B + Subgroup 3/LAT1=LVT1 = Subgroup 1 + Subgroup 2A + Subgroup 2B + Subgroup 3

SPACE LEVEL COMPONENT SCREENED ACCORDING TO COTS+ ECSS-Q-ST-60-13C-REV1

SRT-Microcéramique can apply the COTS+ qualification framework to any suitable component AEQ-200 or not, with or without termination change, to make them fly ready, offering a wide range of possibilities at competitive cost, either in Class 1 (COTS1), Class 2 (COTS2) or Class 3 (COTS3).

EVALUATION/SCREENING/LAT COTS1/COTS2/COTS3

Class 1 (COTS1), Class 2 (COTS2), Class 3 (COTS3)

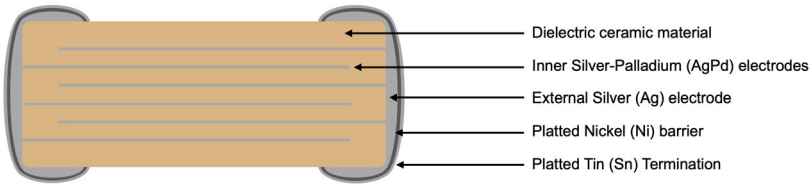
AECQ-200	CLASS 1	CLASS 2	CLASS 3	CATEGORY	TEST TYPE	SAMPLE	PROCEDURE
Yes	X	X	X	Evaluation	Construction Analysis	5	ESCC21001
Yes	X	X	X	Evaluation	Temperature characterization	5	ESCC3009 8.10
Yes	X			Evaluation	Life Test 2000h	40	ESCC3009 8.6 + 8.9
Yes	X			Screening	Complete screening	100%	ESCC3009 chart F3
Yes	X	X	X	LAT	DPA	3	ESCC21001
Yes	X	X		LAT	Life Test 1000h	20	ESCC3009 8.6 + 8.9
No	X	X	X	Evaluation	Construction Analysis	5	ESCC21001
No	X	X	X	Evaluation	Temperature characterization	5	ESCC 3009 8.10
No	X	X		Evaluation	Complete evaluation	72	ESCC 3009 chart F4
No			X	Evaluation	Life Test 1000h	40	ESCC3009 8.6 + 8.9
No	X	X	X	Screening	Complete screening	100%	ESCC3009 chart F3
No	X	X	X	LAT	DPA	3	ESCC21001
No	X			LAT	Complete LAT	52	ESCC 3009 chart F4
No		X	X	LAT	Life Test 1000h	20	ESCC3009 8.6 + 8.9

TINNING

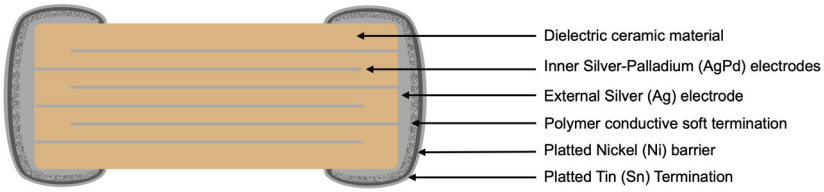
All component for space application can be proposed with dipped SnPb termination (Sn62 Pb36 Ag2) or SAC 305 (Sn96.5 Ag3 Cu0.5) for maximum reliability and whiskers avoidance.

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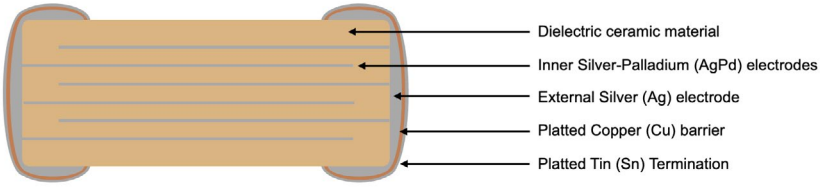
PME (Precious Metal Electrodes)



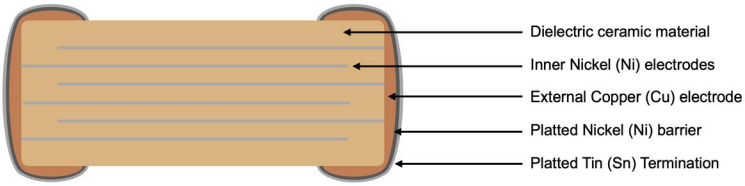
PME (Precious Metal Electrodes) Polymer Soft Termination



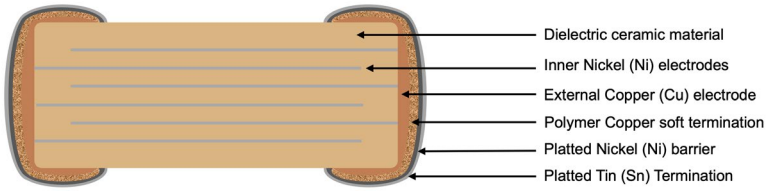
PME (Precious Metal Electrodes) Non Magnetic



BME (Basis Metal Electrodes) code BM



BME (Basis Metal Electrodes) code BM Polymer Soft Termination



REACH Compliance

- SRT-Microcéramique delivers non-chemical articles only.
- These contain no substances which are intented to be released under normal or reasonably foreseeable conditions of use according Reach article 7(1).

SRT-Microcéramique confirms hereby that our products contain none of the substances which are listed in the present candidate list of the European Chemicals Agency (ECHA), above a concentration of 0.1% by weight of the whole component.

Candidate list of substances (European Chemicals Agency ECHA) :
http://echa.europa.eu/fr/candidate-list-table

ROHS COMPLIANCE

SRT-Microcéramique herewith confirms that RoHS-compliant SRT-microcéramique products are conforming to the following EU directives:
EU directive 2015/863/EU EU directive 2011/65/EU EU directive 2003/11/EC

Following restricted materials are not used and do not exceed the legal limits: Lead (Pb, see exemptions),
- Mercury (Hg)
- Cadmium (Cd)
- Chromium (Cr VI)
- Polybrominated biphenyls (PBB) Polybrominated diphenyl ethers (PBDE) Bis(2-Ethylhexyl) phtalate (DEHP) Benzyl butyl phtalate (BBP)
- Dibutyl phtalate (DBP) Diisobutyl phtalate (DIBP)

Exemptions: The following exemptions according tot he RoHS annexe are applicable:
Identity 7(a) :
- Lead in high melting temperature type solders (i.e lead-based alloys containing 85% by weight or more lead).

Identity 7(c)-I :
- Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

The components are suitable for a lead-free process according to EN 60068-2-58 and in accordance with the IPC/JEDEC standard J-Std-020D.
The lead free process has been tested using solder alloy sn96.5Ag3Cu0.5

Export controls and dual-use regulations

Some SRT-Microcéramique components fall under ‘dual-use’ items under international export controls definition - those that can be used for civil or military purposes which meet certain specified technical standards.

The defining criteria for a dual use component is one with a voltage rating of >750Vdc and a capacitance value of >250nF when measured at 750Vdc and a series inductance <10nH. Components defined as dual-use under the above criteria may require a licence for export across international borders. Please contact us for further information on specific part numbers.

ISO9001:2015

In their design, research and development as well as the manufacturing of MLCC capacitors, customer service and distribution SRT-Microcéramique uses and maintains a Management System audited and certified in accordance to : **ISO9001:2015**

You may contact us for any inquiry regarding the regulations and compliance listed above.

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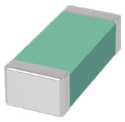
SMD Low Voltage Class I

10V - 1000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : timing, precision circuitry, filtering**



RoHS compliant

FEATURES

- **Ultra stable temperature compensating classe I ceramic**
- **Custom voltage, package size, capacitance value on request**
- **Tested in accordance to CECC 32100 and AEC-Q200**
- **CECC 30600 et NFC 83-131 compliant**
- **Available in stack or radial**
- **Wide range of termination**
- **All PME SMD available in non magnetic**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
± 30ppm with 0Vdc applied

DISSIPATION FACTOR :
≤ 1.10-3 at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10-3 at 1Vrms and 1KHz for values > 1000pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0201	0402	0504	0603	0805	1206	1210	1808	1812	1825	2220	2225	2825	3033	3640	4040	5440
Min	*0.1 pF*	0.1 pF	0.1 pF	0.1 pF	0.1 pF	0.4 pF	0.4 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	4.7 pF	10 pF	10 pF	10 pF	10 pF
10V	*1.0 nF*	*10 nF*	1.5 nF	*15 nF*	*47 nF*	*470 nF*	470 nF	22 nF	*220 nF*	*100 nF*	*470 nF*	100 nF	120 nF	150 nF	*220 nF*	270 nF	330 nF
25V	*1.0 nF*	*8.2 nF*	1.5 nF	*15 nF*	*47 nF*	*470 nF*	220 nF	22 nF	*220 nF*	*100 nF*	*470 nF*	100 nF	120 nF	150 nF	*220 nF*	270 nF	330 nF
50V	*1.0 nF*	*8.2 nF*	1.5 nF	*10 nF*	*47 nF*	*220 nF*	100 nF	22 nF	*220 nF*	*100 nF*	*470 nF*	100 nF	120 nF	150 nF	*220 nF*	270 nF	330 nF
63V	*100 pF*	*1.0 nF*	1.5 nF	*10 nF*	*39 nF*	*100 nF*	100 nF	22 nF	*150 nF*	*100 nF*	*330 nF*	100 nF	120 nF	150 nF	*220 nF*	270 nF	330 nF
100V	*100 pF*	*1.0 nF*	1.5 nF	*10 nF*	*39 nF*	*100 nF*	100 nF	22 nF	*150 nF*	*100 nF*	*330 nF*	100 nF	120 nF	150 nF	*220 nF*	270 nF	330 nF
200V		*330 pF*	1.2 nF	*2.2 nF*	*10 nF*	*22 nF*	47 nF	22 nF	*100 nF*	*100 nF*	*150 nF*	100 nF	120 nF	150 nF	*220 nF*	270 nF	330 nF
250V		*330 pF*	1.2 nF	*2.2 nF*	*10 nF*	*22 nF*	47 nF	22 nF	*100 nF*	*100 nF*	*150 nF*	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF
500V		180 pF	1.0 nF	1.0 nF	3.3 nF	8.2 nF	15 nF	18 nF	*47 nF*	*100 nF*	*100 nF*	82 nF	120 nF	150 nF	220 nF	270 nF	330 nF
630V				560 pF	2.2 nF	6.8 nF	12 nF	15 nF	*47 nF*	56 nF	*100 nF*	68 nF	82 nF	120 nF	180 nF	220 nF	270 nF
1000V				220 pF	820 pF	2.7 nF	6.8 nF	6.8 nF	15 nF	33 nF	*100 nF*	47 nF	56 nF	82 nF	120 nF	120 nF	180 nF

Max values italic obtained with BME parts

ORDERING INFORMATION

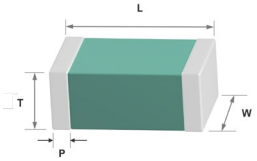
0603	A	101	J	B	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0201 0402 0504 0603 0805 1206 1210 1808 1812 1825 2220 2225 2825 3033 3640 4040 5440	A = NPO	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0,05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10%	Q = 10V J = 16V X = 25V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) W = Nickel Gold H = Dipped SnPb I = Electrolytic SnPb Q = Solderable Silver	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec D20 = AECQ-200

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

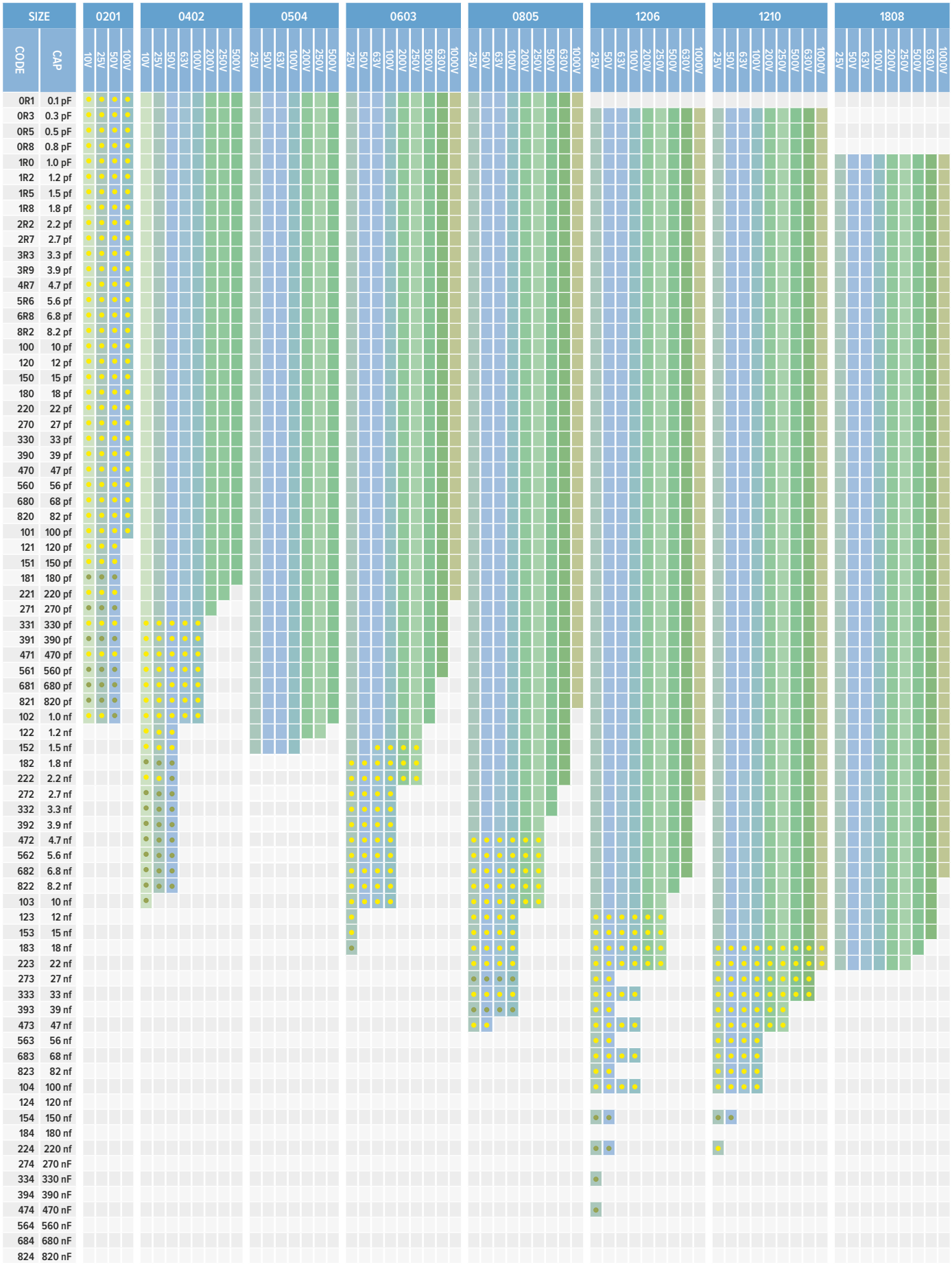
		0201	0402	0504	0603	0805	1206	1210	1808	1812	1825	2220	2225	2825	3033	3640	4040	5440
Length (L)		0.60 ± 0.03	1.00 ± 0.1	1.25 ± 0.1	1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	7.10 ± 0.4	7.60 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0
Width (W)		0.30 ± 0.03	0.50 ± 0.1	1.00 ± 0.1	0.80 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0
Thickness max (T)		0.35	0.60	1.00	0.92	1.40	1.70	2.50	2.20	3.30	3.60	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Termination (P)	Min	0.10	0.10	0.10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.80	0.80	0.80
	Max	0.20	0.40	0.40	0.40	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.20	1.50	1.50	1.50

For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)



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STANDARD SIZE : 0201 to 1808



● *BME parts (AEC-Q200)* ● *BME parts (Industrial)*

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STANDARD SIZE : 1812 to 5440

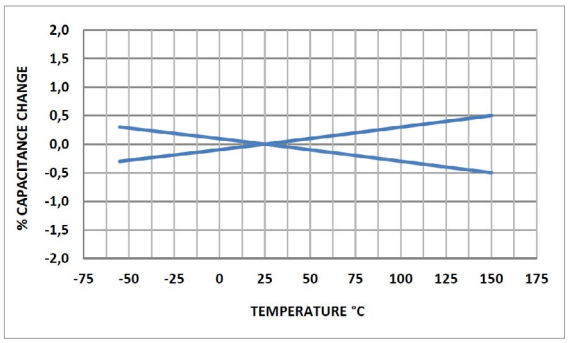
SIZE		1812									1825									2220									2225									3033									3640									4040									5440								
CODE	CAP	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V
1R0	1.0 pF																																																																				
1R5	1.5 pf																																																																			
1R8	1.8 pf																																																																		
2R2	2.2 pf																																																																		
2R7	2.7 pf																																																																		
3R3	3.3 pf																																																																		
3R9	3.9 pf																																																																		
4R7	4.7 pf																																																																		
5R6	5.6 pf																																																																		
6R8	6.8 pf																																																																		
8R2	8.2 pf																																																																		
100	10 pf																																																																		
120	12 pf																																																																		
150	15 pf																																																																		
180	18 pf																																																																		
220	22 pf																																																																		
270	27 pf																																																																		
330	33 pf																																																																		
390	39 pf																																																																		
470	47 pf																																																																		
560	56 pf																																																																		
680	68 pf																																																																		
820	82 pf																																																																		
101	100 pf																																																																		
121	120 pf																																																																		
151	150 pf																																																																		
181	180 pf																																																																		
221	220 pf																																																																		
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331	330 pf																																																																		
391	390 pf																																																																		
471	470 pf																																																																		
561	560 pf																																																																		
681	680 pf																																																																		
821	820 pf																																																																		
102	1.0 nf																																																																	
122	1.2 nf																																																																	
152	1.5 nf																																																																	
182	1.8 nf																																																																	
222	2.2 nf																																																																	
272	2.7 nf																																																																	
332	3.3 nf																																																																	
392	3.9 nf																																																																	
472	4.7 nf																																																																	
562	5.6 nf																																																																	
682	6.8 nf																																																																	
822	8.2 nf																																																																	
103	10 nf																																																																	
123	12 nf																																																																	
153	15 nf																																																																	
183	18 nf																																																																	
223	22 nf																																																																	
273	27 nf																																																																	
333	33 nf																																																																	
393	39 nf	●	●	●	●	●	●	●	●																																																														
473	47 nf	●	●	●	●	●	●	●	●																																																												
563	56 nf	●	●	●	●	●	●																																																												
683	68 nf	●	●	●	●	●	●																																																												
823	82 nf	●	●	●	●	●	●																																																												
104	100 nf	●	●	●	●	●	●				●	●	●	●	●	●				●	●	●	●	●	●																																									
124	120 nf	●	●	●	●																																																														
154	150 nf	●	●	●	●															●	●	●	●	●	●																																									
184	180 nf																																																																	
224	220 nf	●	●																	●	●	●	●																																											
274	270 nf																			●	●	●	●																																										
334	330 nf																			●	●	●	●																																										
394	390 nf																																																																
474	470 nf																			●	●																																											
564	560 nf																																																																
684	680 nf																																																															
824	820 nf																																																															
105	1.0 µf																																																														
125	1.2 µf																																																														
155	1.5 µf																																																														
185	1.8 µf																																																														
225	2.2 µf																																																														

● *BME parts (AEC-Q200)* ● *BME parts (Industrial)*

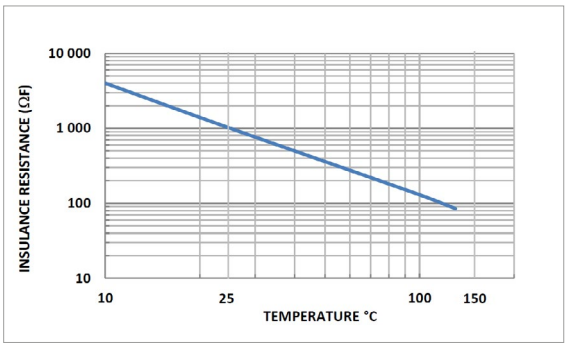
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TYPICAL CHARACTERISTICS

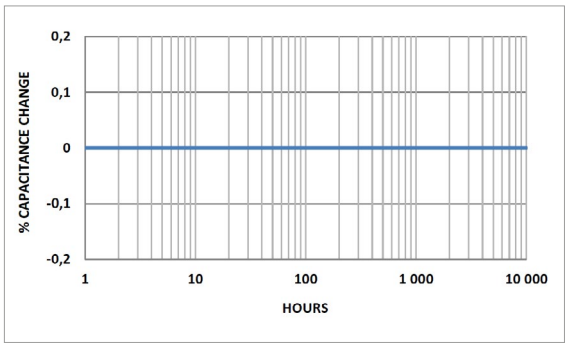
NPO Temperature coefficient of capacitance



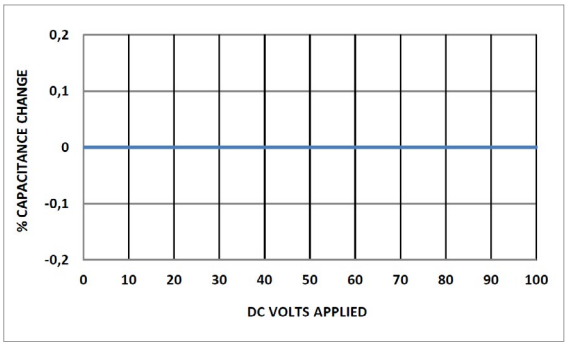
NPO Insulation resistance vs. temperature



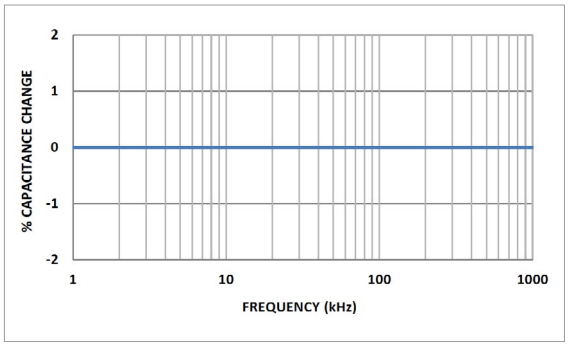
NPO Aging rate



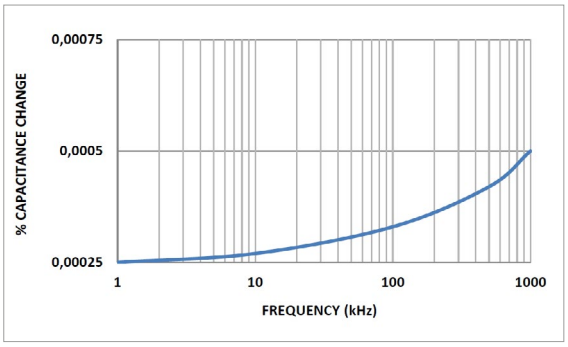
NPO Voltage coefficient of capacitance



NPO Change of Capacitance with Frequency



NPO Dissipation factor vs. frequency



This document is subject to change without notice.

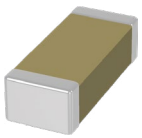
SMD Low Voltage N2T

10V - 1000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : timing, filtering, pulse discharge**



RoHS compliant

FEATURES

- **Class 1**
- **Close to Class 2 volumetric capacitance, high power**
- **No piezo electric effect, high current pulse discharge**
- **Custom voltage, package size, capacitance value on request**
- **Available in stack or radial**
- **Wide range of termination**
- **All PME SMD available in non magnetic termination**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
-2200 ± 350 ppm/C° with 0Vdc applied

DISSIPATION FACTOR :
≤ 1.10-3 at 1Vrms and 1MHz for values ≤ 100pF
≤ 1.10-3 at 1Vrms and 1KHz for values > 100pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0402	0504	0603	0805	1206	1210	1808	1812	1825	2220	2225	2825	3033	3640	4040	5440
Min	0.3 pF	0.3 pF	0.3 pF	1.0 pF	4.7 pF	4.7 pF	4.7 pF	4.7 pF	10 pF	10 pF	10 pF	10 pF	47 pF	47 pF	47 pF	47 pF
10V	1.2 nF	39 nF	1.5 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
25V	1.2 nF	39 nF	1.5 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
50V	1.2 nF	39 nF	1.2 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
63V	1.2 nF	39 nF	1.2 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
100V	1.2 nF	39 nF	1.2 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
200V	1.0 nF	39 nF	1.2 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
250V	1.0 nF	33 nF	1.2 nF	15 nF	220 nF	15 nF	82 nF	820 nF	82 nF	330 nF	2.2 µF	120 nF	680 nF	820 nF	5.6 µF	330 nF
500V	330 pF	6.8 nF	1.0 nF	6.8 nF	82 nF	15 nF	47 nF	330 nF	68 nF	180 nF	1.0 µF	120 nF	390 nF	560 nF	2.7 µF	330 nF
630V			560 pF	4.7 nF	47 nF	12 nF	39 nF	270 nF	56 nF	150 nF	820 nF	82 nF	330 nF	470 nF	2.2 µF	270 nF
1000V			220 pF	1.8 nF	15 nF	6.8 nF	15 nF	120 nF	33 nF	100 nF	470 nF	56 nF	220 nF	330 nF	1.2 µF	180 nF

ORDERING INFORMATION

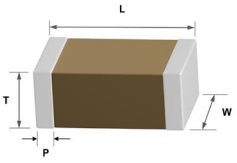
0805	P	101	J	A	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0402 0504 0603 0805 1206 1210 1808 1812 1825 2220 2225 2825 3033 3640 4040 5440	P = N2T	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	Q = 10V X = 25V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) W = Nickel Gold H = Dipped SnPb I = Electrolytic SnPb Q = Solderable Silver	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

		0402	0504	0603	0805	1206	1210	1808	1812	1825	2220	2225	2825	3033	3640	4040	5440
Length (L)		1.00 ± 0.1	1.25 ± 0.1	1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	7.10 ± 0.4	7.60 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0
Width (W)		0.50 ± 0.1	1.00 ± 0.1	0.80 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0
Thickness max (T)		0.60	1.00	0.92	1.40	1.70	2.50	2.20	3.30	3.60	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Termination (P)	Min	0.10	0.10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.80	0.80	0.80
	Max	0.40	0.40	0.40	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.20	1.50	1.50	1.50

For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)



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STANDARD SIZE : 0402 to 1812

SIZE		0402							0504							0603								0805								1206								1210								1808								1812							
CODE	CAP	25V	50V	63V	100V	200V	250V	500V	25V	50V	63V	100V	200V	250V	500V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V
0R3	0.3 pF																																																											
0R5	0.5 pF																																																											
0R8	0.8 pF																																																										
1R0	1.0 pF																																																										
1R2	1.2 pf																																																										
1R5	1.5 pf																																																										
1R8	1.8 pf																																																										
2R2	2.2 pf																																																										
2R7	2.7 pf																																																										
3R3	3.3 pf																																																										
3R9	3.9 pf																																																										
4R7	4.7 pf																																																										
5R6	5.6 pf																																																										
6R8	6.8 pf																																																										
8R2	8.2 pf																																																										
100	10 pf																																																										
120	12 pf																																																										
150	15 pf																																																										
180	18 pf																																																										
220	22 pf																																																										
270	27 pf																																																										
330	33 pf																																																										
390	39 pf																																																										
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560	56 pf																																																										
680	68 pf																																																										
820	82 pf																																																										
101	100 pf																																																										
121	120 pf																																																										
151	150 pf																																																										
181	180 pf																																																										
221	220 pf																																																										
271	270 pf																																																										
331	330 pf																																																										
391	390 pf																																																										
471	470 pf																																																										
561	560 pf																																																										
681	680 pf																																																										
821	820 pf																																																										
102	1.0 nf																																																										
122	1.2 nf																																																										
152	1.5 nf																																																										
182	1.8 nf																																																										
222	2.2 nf																																																										
272	2.7 nf																																																										
332	3.3 nf																																																										
392	3.9 nf																																																										
472	4.7 nf																																																										
562	5.6 nf																																																										
682	6.8 nf																																																										
822	8.2 nf																																																										
103	10 nf																																																										
123	12 nf																																																										
153	15 nf																																																										
183	18 nf																																																										
223	22 nf																																																										
273	27 nf																																																										
333	33 nf																																																										
393	39 nf																																																										
473	47 nf																																																										
563	56 nf																																																										
683	68 nf																																																										
823	82 nf																																																										
104	100 nf																																																										
124	120 nf																																																										
154	150 nf																																																										
184	180 nf																																																										
224	220 nf																																																										
274	270 nF																																																										
334	330 nF																																																										
394	390 nF																																																										
474	470 nF																																																										
564	560 nF																																																										
684	680 nF																																																										
824	820 nF																																																										

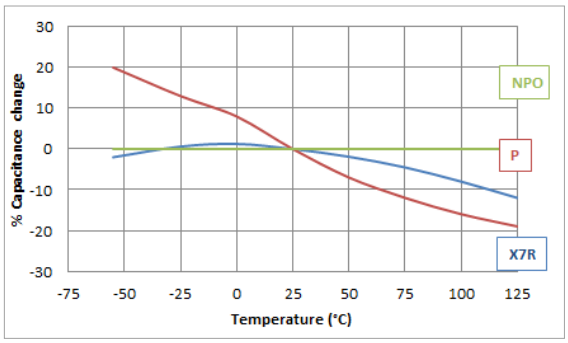
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STANDARD SIZE : 1825 to 5440

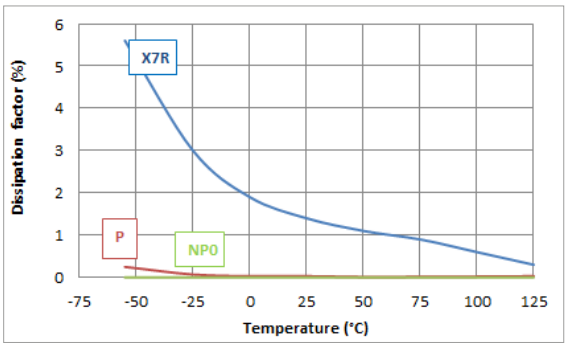
SIZE		1825									2220									2225									3033									3640									4040									5440								
CODE	CAP	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V	25V	50V	63V	100V	200V	250V	500V	630V	1000V
100	10 pf																																																													
120	12 pf																																																													
150	15 pf																																																													
180	18 pf																																																													
220	22 pf																																																													
270	27 pf																																																													
330	33 pf																																																													
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820	82 pf																																																													
101	100 pf																																																													
121	120 pf																																																													
151	150 pf																																																													
181	180 pf																																																													
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102	1.0 nf																																																													
122	1.2 nf																																																													
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182	1.8 nf																																																													
222	2.2 nf																																																													
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473	47 nf																																																													
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685	6.8 µF																																																													
825	8.2 µF																																																													
106	10 µF																																																													
126	12 µF																																																													
156	15 µF																																																													

TYPICAL CHARACTERISTICS

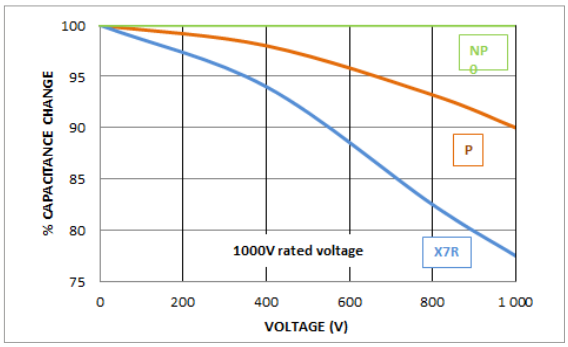
N2T Capacitance vs. temperature



N2T Dissipation factor vs. temperature



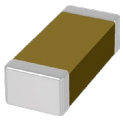
N2T Capacitance vs. voltage



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APPLICATIONS

- **Typical uses : passing, coupling, filtering, blocking**



RoHS compliant

FEATURES

- **Temperature stable classe II ceramic**
- **Custom voltage, package size, capacitance value on request**
- **Tested in accordance to CECC 32100 and AEC-Q200**
- **CECC 30700 et NFC 83-132 compliant**
- **Available in stack or radial**
- **Wide range of termination**
- **All PME values available in non magnetic termination**
- **BX range with improved ESR and voltage coef, MIL specifications**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
X7R : ± 15% with 0Vdc applied
BX : +15% -25% at rated voltage

DISSIPATION FACTOR :
≤ 2.5% at 1kHz for C ≥ 100pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0201	0402	0504	0603	0805	1206	1210	1808	1812	1825	2220	2225	2825	3033	3640	4040	5440
Min	100 pF	2.2 pF	2.2 pF	2.2 pF	6.8 pF	10 pF	10 pF	10 pF	10 pF	33 pF	33 pF	33 pF	33 pF	100 pF	100 pF	100 pF	100 pF
10V	*100 nF*	*2.2 µF*	39 nF	*4.7 µF*	*22 µF*	*22 µF*	*47 µF*	470 nF	*33 µF*	*10 µF*	*47 µF*	*15 µF*	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
25V	*10 nF*	*220 nF*	39 nF	*2.2 µF*	*10 µF*	*10 µF*	*22 µF*	470 nF	*22 µF*	*10 µF*	*47 µF*	*15 µF*	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
50V	*1.5 nF*	*100 nF*	39 nF	*1.0 µF*	*4.7 µF*	*10 µF*	*10 µF*	470 nF	*6.8 µF*	*10 µF*	*22 µF*	*10 µF*	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
63V		*10 nF*	39 nF	*100 nF*	*1.0 µF*	*4.7 µF*	*10 µF*	470 nF	*4.7 µF*	*10 µF*	*22 µF*	*10 µF*	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
100V		*10 nF*	39 nF	*100 nF*	*1.0 µF*	*4.7 µF*	*10 µF*	470 nF	*4.7 µF*	*10 µF*	*22 µF*	*10 µF*	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
200V		6.8 nF	39 nF	39 nF	100 nF	220 nF	390 nF	470 nF	820 nF	1.8 µF	1.8 µF	2.2 µF	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
250V		5.6 nF	33 nF	27 nF	82 nF	220 nF	330 nF	470 nF	820 nF	1.8 µF	1.8 µF	2.2 µF	2.7 µF	3.9 µF	5.6 µF	6.8 µF	8.2 µF
500V		1.2 nF	6.8 nF	6.8 nF	27 nF	82 nF	180 nF	220 nF	330 nF	820 nF	820 nF	1.0 µF	1.2 µF	1.8 µF	2.7 µF	2.7 µF	3.9 µF
630V				3.9 nF	15 nF	47 nF	120 nF	120 nF	270 nF	560 nF	560 nF	820 nF	1.0 µF	1.2 µF	1.8 µF	2.2 µF	2.7 µF
1000V				1.2 nF	5.6 nF	15 nF	47 nF	39 nF	120 nF	330 nF	330 nF	470 nF	560 nF	820 nF	1.2 µF	1.2 µF	1.8 µF

Max values italic obtained with BME parts

ORDERING INFORMATION

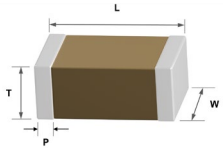
0805	Y	103	K	C	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0201 0402 0504 0603 0805 1206 1210 1808 1812 1825 2220 2225 2825 3033 3640 4040 5440	Y = X7R X = BX BY = 2C1	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	Q = 10V X = 25V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) CP = Copper Polymer Tin (Non magnetic) W = Nickel Gold Flash G = Nickel Gold Thick H = Dipped SnPb S = Dipped SAC SP = Polymer Dipped SAC HP = Polymer Dipped SnPb I = Electrolytic SnPb IP = Polymer Electrolytic SnPb Q = Solderable Silver	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

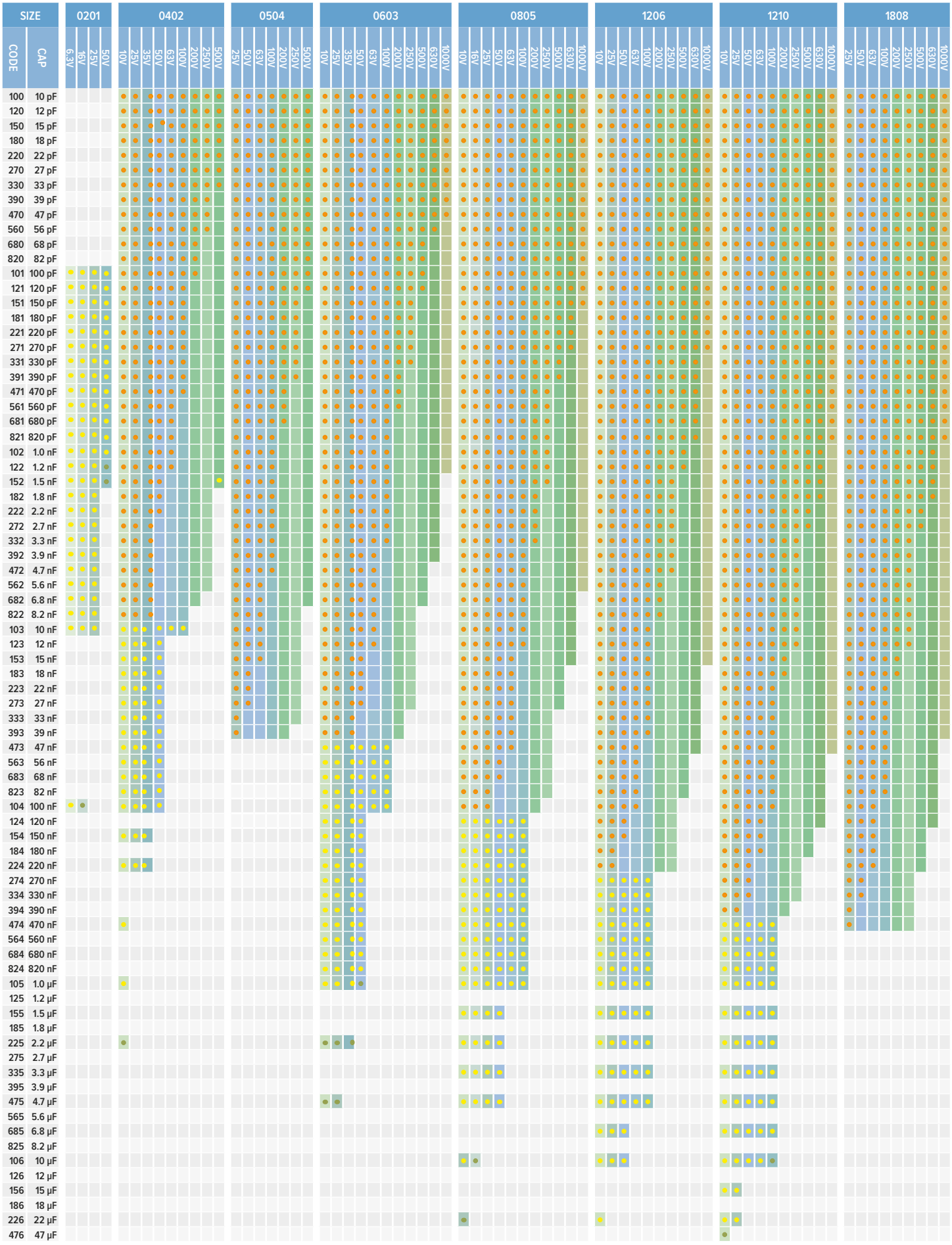
		0201	0402	0504	0603	0805	1206	1210	1808	1812	1825	2220	2225	2825	3033	3640	4040	5440
Length (L)		0.60 ± 0.03	1.00 ± 0.1	1.25 ± 0.1	1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	7.10 ± 0.4	7.60 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0
Width (W)		0.30 ± 0.03	0.50 ± 0.1	1.00 ± 0.1	0.80 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0
Thickness max (T)		0.35	0.60	1.00	0.92	1.40	1.70	2.50	2.20	3.30	3.60	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Termination (P)	Min	0.10	0.10	0.10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.80	0.80	0.80
	Max	0.20	0.40	0.40	0.40	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.20	1.50	1.50	1.50

For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)



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STANDARD SIZE : 0201 to 1808



● *BME parts (AEC-Q200)* ● *BME parts (Industrial)* ● *BX range*

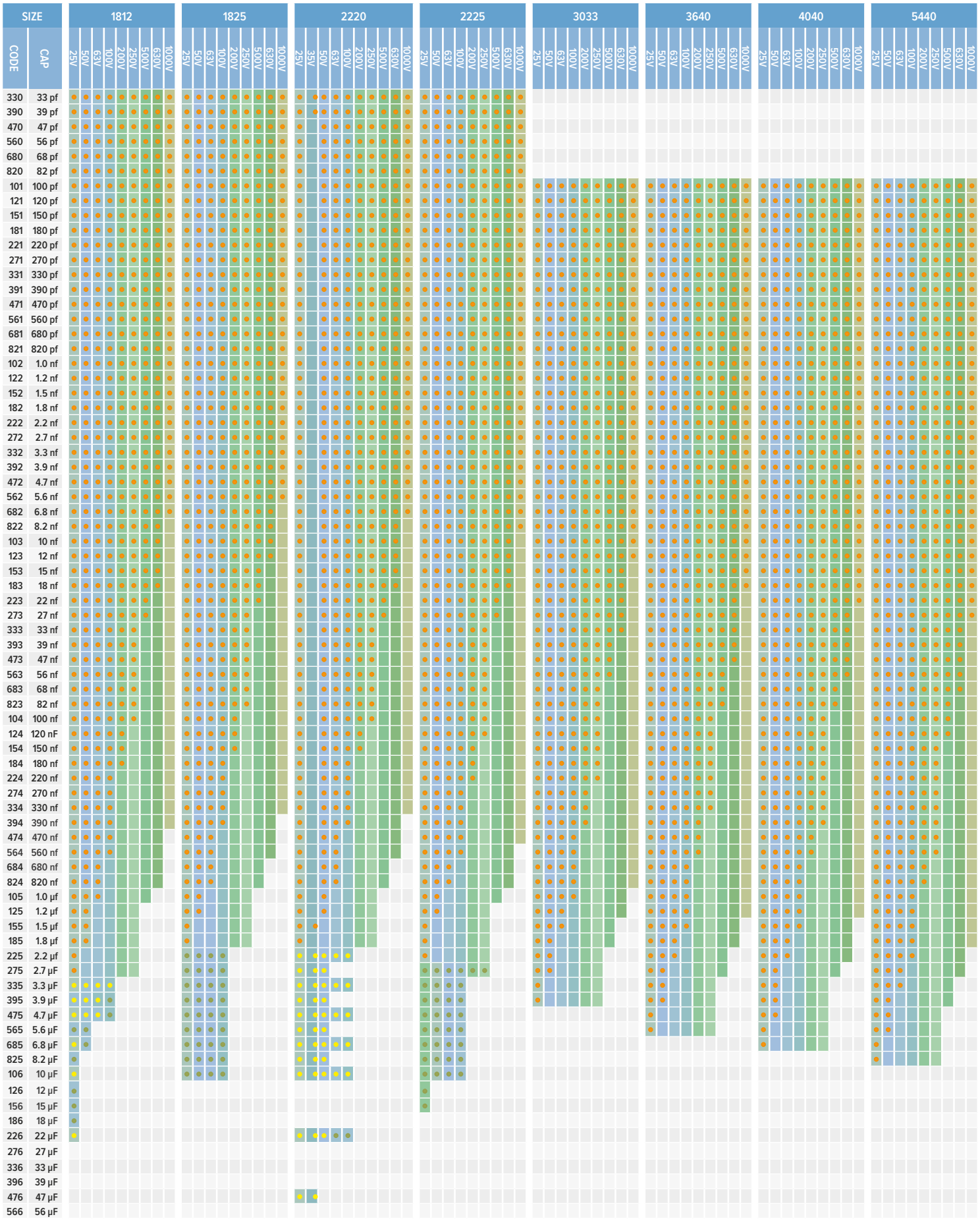
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SMD Low Voltage Class II

10V - 1000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

STANDARD SIZE : 1812 to 5440

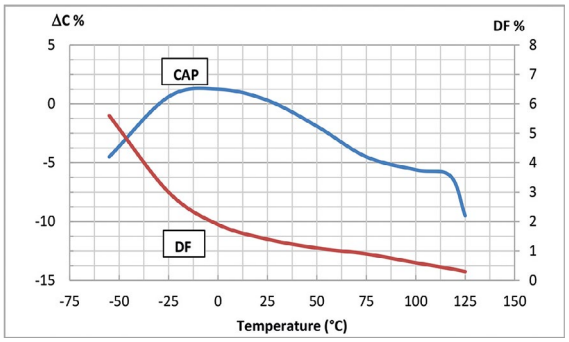


● *BME parts (AEC-Q200)* ● *BME parts (Industrial)* ● *BX range*

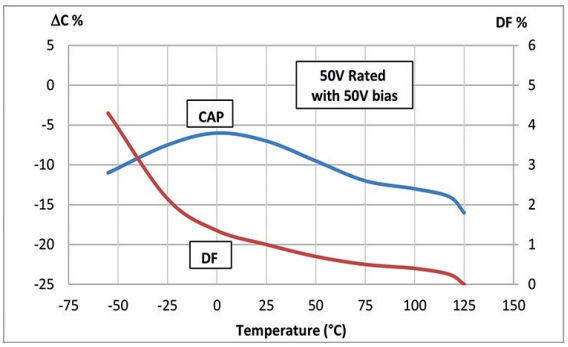
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TYPICAL CHARACTERISTICS

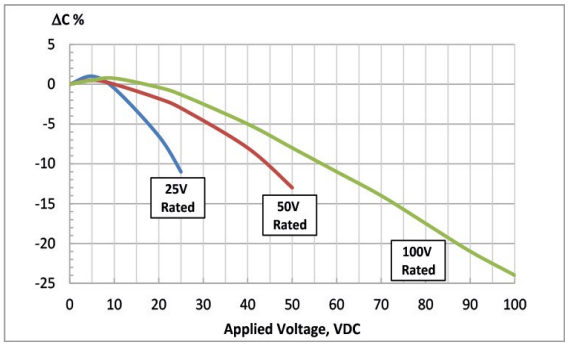
X7R Capacitance and dissipation factor vs temperature



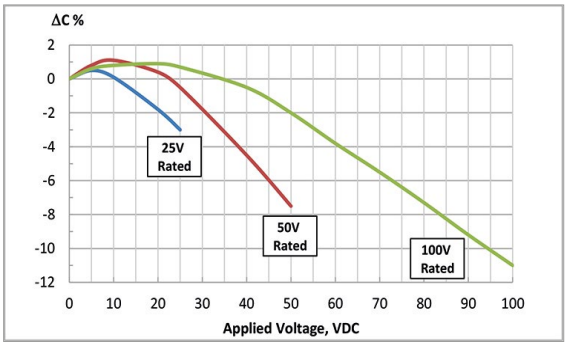
BX Capacitance and dissipation factor vs temperature



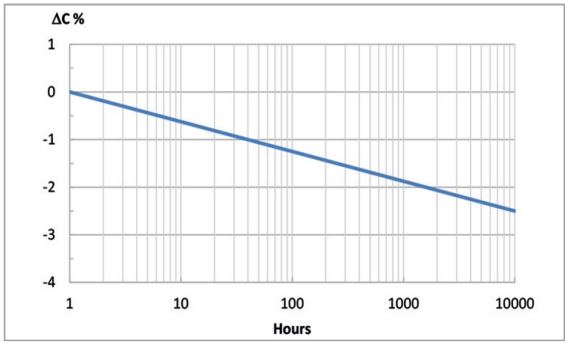
X7R Voltage coefficient of capacitance



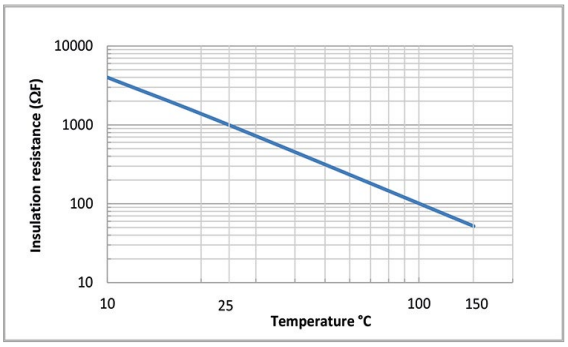
BX Voltage coefficient of capacitance



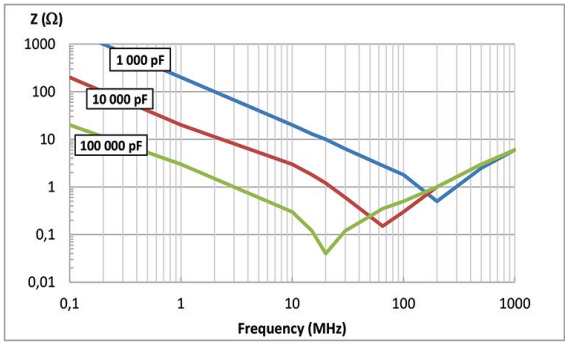
X7R and BX Aging



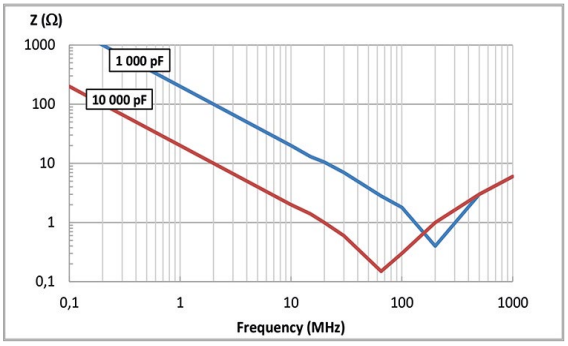
X7R and BX Insulation resistance vs temperature



X7R Impedance vs frequency



BX Impedance vs frequency



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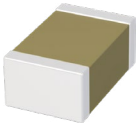
High Capacitance capacitors

X7R X7S X6S X5R X7T Series

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- Digital circuit coupling/decoupling
- High frequency & high-density type power suppliers
- For bypassing
- Ideal for smoothing circuits
- Suitable for DC-DC converter, personal computer and peripherals, telecommunication and generaL electronic equipment



RoHS compliant

FEATURES

- Realize high capacitance in small sizes
- Basis Metal Electrode
- RoHS and HALOGEN compliant
- Surface mount suited for wave and reflow soldering
- High reliability and no polarity
- Excellent in high frequency characteristics
- Various termination available
- AEC-Q200 range can be proposed in High Reliability

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
X7R, X7S, X7T : - 55°C, + 125°C
X6S : - 55°C, + 105°C
X5R : - 55°C, + 85°C

TEMPERATURE COEFFICIENT :
X7R : ±15% with 0Vdc applied
X7S : ±22% with 0Vdc applied
X7T : +22% -33% with 0Vdc applied
X6S : ±22% with 0Vdc applied
X5R : ±15% with 0Vdc applied

DISSIPATION FACTOR :
cf Table

INSULATION RESISTANCE (IR) :
25°C/Un 10^4 MOhm or 500 Ohm-Farad whichever is less
Except ° table 25°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less
Except ° table 50 Ohm-Farad

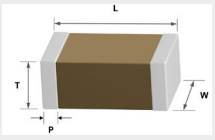
DIELECTRIC STRENGTH TEST :
2.5Un for 5s with 50mA max charging current

QUICK REFERENCE DATA (MAX)

	0201			0402					0603					0805					1206				1210				
	X7S	X6S	X5R	X7R	X7S	X7T	X6S	X5R	X7R	X7S	X7T	X6S	X5R	X7R	X7S	X7T	X6S	X5R	X7R	X7S	X6S	X5R	X7R	X7S	X7T	X6S	X5R
2.5V											22µF					47µF										330µF	
4V	1.0µF	2.2µF		2.2µF		10µF	22µF	22µF	10µF			47µF		22µF			100µF	100µF	22µF		220µF	220µF	47µF			220µF	330µF
6.3V	1.0µF		4.7µF	2.2µF		4.7µF	10µF	22µF	10µF		10µF	22µF	47µF	22µF			47µF	100µF	22µF	47µF	47µF	220µF	47µF	100µF	100µF	100µF	220µF
10V		1.0µF		2.2µF	2.2µF	4.7µF	4.7µF	10µF	10µF		10µF	10µF	22µF	10µF	22µF	22µF	22µF	47µF	22µF		47µF	100µF	47µF	47µF		47µF	100µF
16V			2.2µF			2.2µF	2.2µF	4.7µF	2.2µF	4.7µF		10µF	22µF	10µF			22µF	22µF	22µF	22µF	22µF	47µF	22µF			47µF	100µF
25V							1.0µF	2.2µF	2.2µF	2.2µF		10µF	10µF	4.7µF	10µF		10µF	22µF	10µF		22µF	22µF	22µF				47µF
35V								2.2µF	1.0µF			2.2µF	10µF	4.7µF			10µF	22µF	10µF		10µF	10µF	10µF				
50V								1.0µF	1.0µF				2.2µF	4.7µF			4.7µF	10µF	10µF		4.7µF	10µF	10µF				
100V											1.0µF			1.0µF	1.0µF	2.2µF			4.7µF				10µF				

DIMENSIONS IN MILLIMETERS

		0201	0402	0603	0805	1206	1210
Length (L)		0.60 ± 0.05 (0.09 C>1.0µF)	1.00 ± 0.10	1.60 ± 0.20	2.00 ± 0.20	3.20 ± 0.20	3.20 ± 0.30
Width (W)		0.30 ± 0.05 (0.09 C>1.0µF)	0.5 ± 0.10	0.80 ± 0.20	1.25 ± 0.20	1.60 ± 0.20	2.50 ± 0.30
Thickness max (T)		0.33	0.70	0.95	1.45	1.90	2.80
Termination (P)	Min	0.10	0.15	0.25	0.30	0.40	0.40
	Max	0.20	0.30	0.55	0.70	0.80	1.10



ORDERING INFORMATION

0805	T	475	M	X	X	B	BM	
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	BME	SPECIAL PARAMETERS
0201 0402 0603 0805 1206 1210	Y = X7R T = X7S W = X7T R = X6S S = X5R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF	K = ±10 % M = ±20 %	V = 2.5V Y = 4V R = 6.3V Q = 10V J= 16V X = 25V Z = 35V A = 50V B = 100V	X = Nickel Tin P = Polymer W = Nickel Gold Flash G = Nickel Gold Thick H = Dipped SnPb S = Dipped SAC I = Electrolytic SnPb Q = Solderable Silver	B = Taping Reel V = Bulk	BM = BME	- Dxx = Reliability spec D20 = AEC-Q200

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DF TABLE : X7R/X7S/X7T/X6S/X5R

Rated	D.F.≤	Exception of D.F.≤	
100V	≤2.5%		
50V	≤2.5%	≤3.5%	1206<2.2µF, 1210≥2.2µF, 1812≥4.7µF
		≤5%	0201, 1210≥4.7µF
		≤10%	0402, 0603, 0805, 1206≥2.2µF, 1210≥10µF
35V	≤10%		
25V	≤3.5%	≤5%	0805, 1210≥10µF
		≤10%	0201, 0603, 0805≥2.2µF, 1206≥2.2µF, 1210≥22µF
		≤12.5%	0402
16V	≤3.5%	≤5%	0805<2.2µF, 1206≥2.2µF, 1210≥4.7µF
		≤10%	0201, 0402, 0603, 0805≥2.2µF, 1206≥4.7µF, 1210≥22µF
10V	≤5%	≤10%	0603<10µF, 0805≥2.2µF, 1206≥2.2µF, 1210≥22µF
		≤15%	0201, 0402, 0603≥10µF
6.3V	≤10%	≤15%	0201, 0402<2.2µF, 0603≥10µF, 0805≥4.7µF, 1206≥47µF, 1210≥100µF
		≤20%	0402≥2.2µF
4V	≤15%		

THICKNESS CODE :

Code	Thickness (mm)
C	0.30±0.04
E	0.50±0.05
G	0.50±0.20
J	0.80±0.07
K	0.80±0.10
M	0.95±0.10
O	1.15±0.15
P	1.25±0.10
Q	1.25±0.20
T	1.60±0.20
U	1.70±0.20
W	2.00±0.20
X	2.25±0.25
Y	2.50±0.30

X7R

SIZE		0402		0603						0805						1206							1210						
CODE	CAP	4V	10V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	50V	100V	6.3V	10V	16V	25V	35V	50V	100V	6.3V	10V	16V	25V	50V	63V	100V
105	1.0 µF	J	J	J	J	J	J	J	J	P	P	P	P	Q	Q	O	O	O	T	T	T	T	P	P	P	Y	W	Y	Y
155	1.5 µF									O	O	O	O	O		O	O	O	T	T	T	T	T	T	T	T	Y	Y	Y
225	2.2 µF	J	J	J	J	J	J			O	O	O	O	O		O	O	O	T	T	T	T	T	T	T	Y	Y	Y	Y
335	3.3 µF									O	O	O	O	O		T	T	T	T	T	T	T	T	T	T	Y	Y	Y	Y
475	4.7 µF			J	J					O	O	O	O	O		T	T	T	T	T	T	T	W	W	W	Y	Y	Y	Y
685	6.8 µF															T	T	T	T	T	T		W	W	W	Y	Y	Y	Y
106	10 µF			J	J					O	O	Q				T	T	T	T	T	T		W	W	W	Y	Y	Y	Y
226	22 µF									O						T	T	T					Y	Y	Y	Y	Y		
476	47 µF																						Y	Y					
107	100 µF																												

Yellow : AECQ-200, White : Industrial

X7S

SIZE		0201		0402		0603			0805			1206		1210	
CODE	CAP	4V	6.3V	6.3V	10V	10V	16V	25V	10V	25V	100V	6.3V	16V	6.3V	10V
105	1.0 µF	C °°°	C °°°								Q *				
155	1.5 µF														
225	2.2 µF			G °	G °°		K °°	K *							
335	3.3 µF														
475	4.7 µF					K °°	K °°								
685	6.8 µF														
106	10 µF									Q *					
226	22 µF								Q °				U °°°		
476	47 µF											U °°°			Y °°°
107	100 µF													Y °°°	
227	220 µF														

Yellow : AECQ-200, White : Industrial

* : tolerance M only, ° : RC≥10⁴ MOhm or 100 Ω/F whichever is less, °° : RC≥50 Ω/F

X7T

SIZE		0402				0603					0805			1210
CODE	CAP	4V	6.3V	10V	16V	2.5V	6.3V	10V	50V	100V	2.5V	10V	100V	6.3V
105	1.0 µF								K °°	K °°				
155	1.5 µF													
225	2.2 µF				G °°								Q *	
335	3.3 µF													
475	4.7 µF		G °	G °°										
685	6.8 µF													
106	10 µF	G °°					K °	K °°				Q °		
226	22 µF					K °°								
476	47 µF										Q °			
107	100 µF													Y °°°
227	220 µF													

Yellow : AECQ-200, White : Industrial

* : tolerance M only, ° : RC≥10⁴ MOhm or 100 Ω/F whichever is less, °° : RC≥50 Ω/F

X6S

SIZE		0201		0402						0603							0805							1206							1210				
CODE	CAP	4V	10V	4V	6.3V	10V	16V	25V	35V	4V	6.3V	10V	16V	25V	35V	50V	4V	6.3V	10V	16V	25V	35V	50V	4V	6.3V	10V	16V	25V	35V	50V	2.5V	4V	6.3V	10V	16V
105	1.0 µF		C °°°					G °°	G °°							K °°																			
155	1.5 µF																																		
225	2.2 µF	C °°					G °°	G °°							K **															Q **					
335	3.3 µF																																		
475	4.7 µF				G °°	G °°								K °°								Q **	Q *°						U *°					
685	6.8 µF																																		
106	10 µF				G °°							K °	K °°	K °°					Q °°	Q *°	Q *°						U *°	U *°°							
226	22 µF			G °°							K °°°								Q °°	Q *°						U °°	U °°°								
476	47 µF									K °°°							Q °°°	Q °°°							U °°	U °°								Y °°°	Y °°°
107	100 µF																Q °°°							U °°°									Y °°°		
227	220 µF																							U °°°								Y °°°		
330	330 µF																														Y °°°				

Yellow : AECQ-200, White : Industrial

* : tolerance M only, ° : RC≥10⁴ MOhm or 100 Ω/F whichever is less, °° : RC≥50 Ω/F

X5R

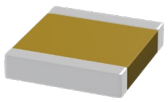
SIZE		0201			0402						0603						0805						1206						1210					
CODE	CAP	6.3V	10V	16V	4V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	35V	50V	4V	6.3V	10V	16V	25V	35V	50V	4V	6.3V	10V	16V	25V	50V
105	1.0 µF	C °°°	C °°°	C °°°	G °	G °	G °°	E *	E *	G **	G °°																										
155	1.5 µF																																				
225	2.2 µF			C °°°	T °	T °	E °°°	G °°°	G °°°	G °°°					K ***	K ***																				
335	3.3 µF																																				
475	4.7 µF	C °°°					G °°°	G °°°							K ***	K ***						Q **	Q **														
685	6.8 µF																			Q °																
106	10 µF						G °°°						K °°°	K °°	K °°°	K °°°			Q °			Q °°						U °°	U °°	U °°						Y *
226	22 µF				G °°	G °°						K °°	K °°°	K °°°						Q *	Q °°°	Q *°					U °°	U °°°						Y *		
476	47 µF											K °°°						Q °°	Q °°							U °	U °°						Y *	Y °°		
107	100 µF																	Q °°°							U °°	U °					Y °°°	Y °°	Y °°			
227	220 µF																							U °°	U °°°						Y °°	Y *				
330	330 µF																														Y °°					

Yellow : AECQ-200, White : Industrial

* : tolerance M only, ° : RC≥10⁴ MOhm or 100 Ω/F whichever is less, °° : RC≥50 Ω/F

APPLICATIONS

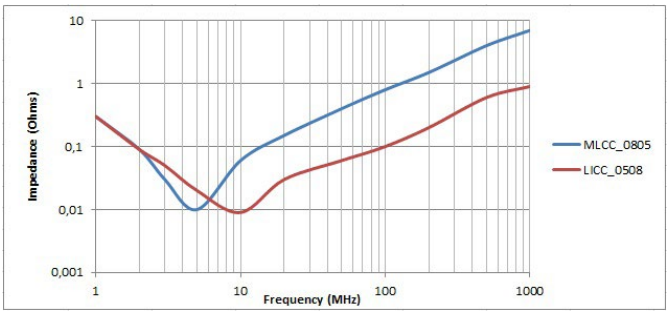
- **Typical uses : high speed energy transfer on semiconductor applications**



RoHS compliant

FEATURES

- **Inverted geometry reduces the ESL up to 60% to standard MLCC**
- **Custom voltage, package size, capacitance value on request**
- **Tested in accordance to CECC 32100 and AEC-Q200**
- **CECC 30700 et NFC 83-132 compliant**



ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

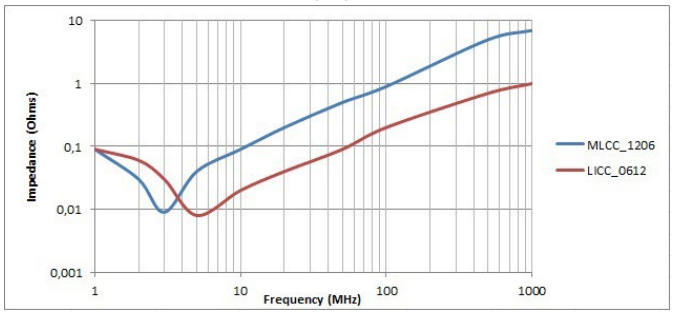
OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
X7R : ± 15% with 0Vdc applied
BX : +15% -25% at rated voltage

DISSIPATION FACTOR :
≤ 2.5% at 1kHz for C ≥ 100pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
Performed per method 103 of EIA 198-2-E
1.2Un for 5s with 50mA max charging current



QUICK REFERENCE DATA

	0204	0306	0505	0508	0612	1111
Min	*1.0 nF*	*1.0 nF*	1 nF	*1.0 nF*	*1.0 nF*	1.0 nF
6.3V	*22 nF*	*220 nF*	56 nF	*1.0 µF*	*1.5 µF*	270 nF
10V		*150 nF*	56 nF	*1.0 µF*	*1.5 µF*	270 nF
16V		*68 nF*	56 nF	*220 nF*	*330 nF*	270 nF
25V		*22 nF*	56 nF	*100 nF*	220 nF	270 nF
50V			56 nF	100 nF	150 nF	270 nF

Max values italic obtained with BME parts

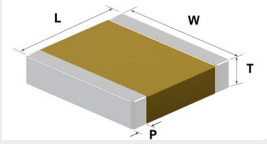
ORDERING INFORMATION

0805	Y	103	K	C	X	B	XX
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAM-ETERS
0204 0306 0508 0612	Y = X7R X = BX	Expressed in picofarads (pF). The first two digits are significant, the third digit gives thenumber of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	R = 6.3V Q = 10V J = 16V X = 25V A = 50V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) W = Nickel Gold H = Dipped SnPb I = Electrolytic SnPb Q = Solderable Silver	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, ceramic tolerance contact us

DIMENSIONS IN MILLIMETERS

		0204	0306	0505	0508	0612	1111
Length (L)		0.50 ± 0.1	0.80 ± 0.1	1.40 ± 0.1	1.30 ± 0.2	1.60 ± 0.2	2.80 ± 0.2
Width (W)		1.00 ± 0.1	1.60 ± 0.1	1.40 ± 0.1	2.00 ± 0.2	3.20 ± 0.2	2.80 ± 0.2
Thickness max (T)		0.60	0.92	1.45	2.00	3.00	2.60
Termination (P)	Min	0.10	0.10	0.10	0.25	0.25	0.25
	Max	0.40	0.40	0.40	0.40	0.70	0.70



For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)

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STANDARD SIZE : 0204 to 0612

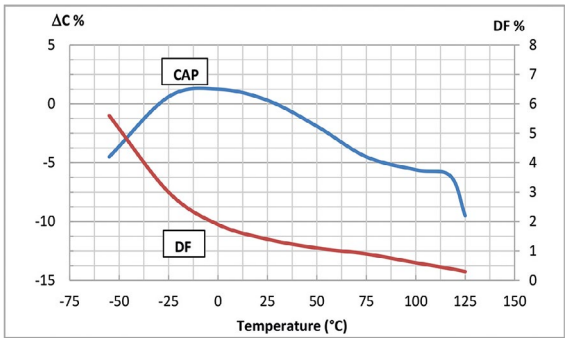
SIZE		0204	0306				0505				0508					0612					1111			
CODE	CAP	6.3V	6.3V	10V	16V	25V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V	10V	16V	25V	50V
102	1.0 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
122	1.2 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
152	1.5 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
182	1.8 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
222	2.2 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
272	2.7 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
332	3.3 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
392	3.9 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
472	4.7 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
562	5.6 nF		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
682	6.8 nF		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
822	8.2 nF		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
103	10 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
123	12 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
153	15 nF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
183	18 nF	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
223	22 nF	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
273	27 nF						●	●	●		●	●	●	●		●	●	●	●	●	●	●	●	●
333	33 nF						●	●	●		●	●	●	●		●	●	●	●	●	●	●	●	●
393	39 nF															●	●	●	●	●	●	●	●	●
473	47 nF		●	●	●	●										●	●	●	●	●	●	●	●	●
563	56 nF		●	●	●	●										●	●	●	●	●	●	●	●	●
683	68 nF		●	●	●	●										●	●	●	●	●	●	●	●	●
823	82 nF		●	●	●											●	●	●	●		●	●	●	●
104	100 nF		●	●	●											●	●	●	●		●	●	●	●
124	120 nF		●	●							●	●	●	●		●	●	●	●		●	●	●	●
154	150 nF		●	●							●	●	●	●							●	●	●	
184	180 nF		●								●	●	●								●	●	●	
224	220 nF		●								●	●	●											
274	270 nF										●	●												
334	330 nF										●	●				●	●	●						
394	390 nF										●	●				●	●							
474	470 nF										●	●				●	●							
564	560 nF										●	●				●	●							
684	680 nF										●					●	●							
824	820 nF										●					●	●							
105	1.0 µF										●					●	●							
125	1.2 µF															●								
155	1.5 µF															●								
185	1.8 µF																							
225	2.2 µF																							
275	2.7 µF																							

● *BME parts* ● *BX range*

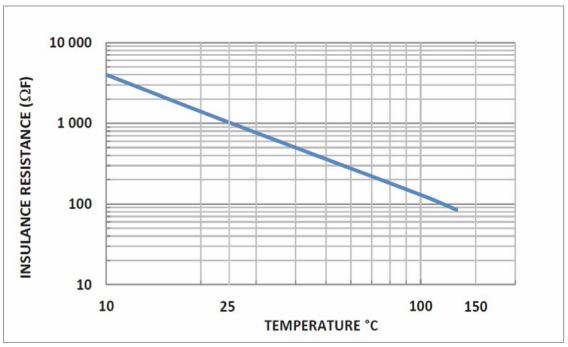
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TYPICAL CHARACTERISTICS

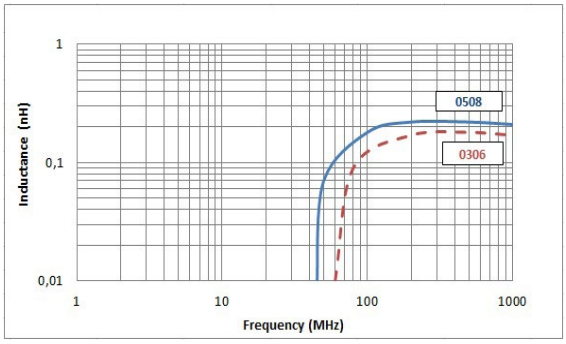
Capacitance and dissipation factor vs temperature



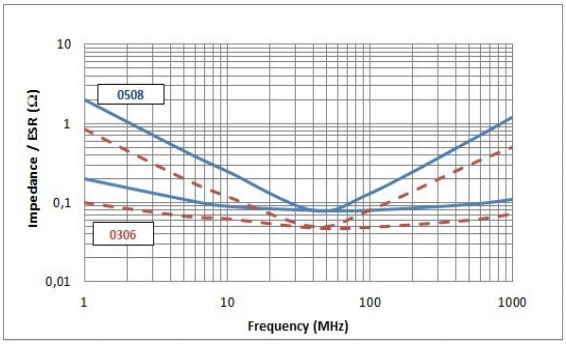
Insulation resistance vs temperature



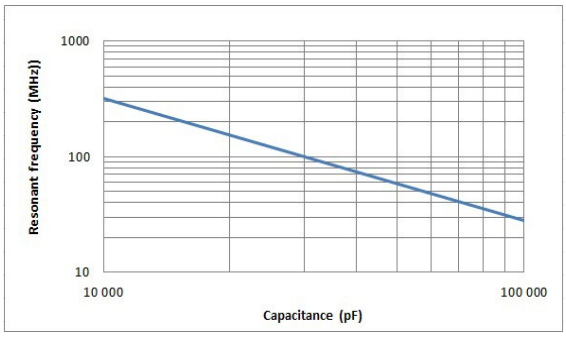
Inductance vs. frequency
0508Y104KXX & 0306Y104KXX



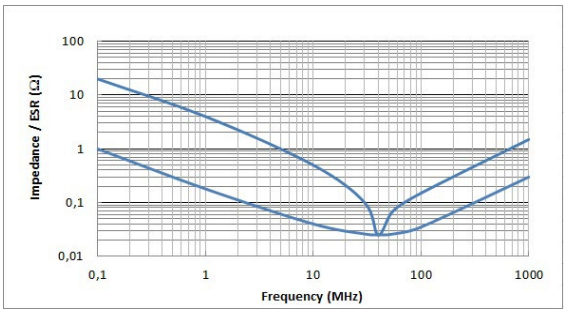
Inpedance & ESR vs. frequency
0508Y104KXX & 0306Y104KXX



Series resonant frequency 0612



Inpedance & ESR vs. frequency 0612Y823KXA



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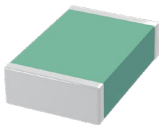
SMD High Voltage Class I

1KV - 15KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : timing, precision circuitry, filtering**



RoHS compliant

FEATURES

- **Ultra stable temperature compensating class I ceramic**
- **Custom voltage, package size, capacitance value on request**
- **Tested in accordance to CECC 32100 and AEC-Q200**
- **CECC 30600 et NFC 83-131 compliant**
- **Available in stack or radial**
- **Surface coating can be necessary to prevent surface arcing**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
± 30ppm with 0Vdc applied

DISSIPATION FACTOR :
≤ 1.10-3 at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10-3 at 1Vrms and 1KHz for values > 1000pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0805	1206	1210	1808	1812	1825	2220	2225	2825	3640	4040	5440	5550	6660	8060	80150	15080
Min	0.1 pF	0.4 pF	0.4 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	4.7 pF	10 pF	10 pF	10 pF	10 pF	10 pF	10 pF	22 pF	22 pF
1KV	820 pF	2.7 nF	6.8 nF	6.8 nF	15 nF	33 nF	39 nF	47 nF	56 nF	120 nF	120 nF	180 nF	220 nF	330 nF	390 nF	1.0 µF	1.0 µF
1.5KV	330 pF	1.0 nF	2.7 nF	2.7 nF	8.2 nF	18 nF	18 nF	27 nF	33 nF	68 nF	68 nF	100 nF	120 nF	180 nF	220 nF	560 nF	560 nF
2KV	150 pF	560 pF	1.5 nF	1.2 nF	3.9 nF	10 nF	12 nF	15 nF	18 nF	39 nF	47 nF	56 nF	82 nF	120 nF	120 nF	330 nF	330 nF
3KV		180 pF	470 pF	470 pF	1.2 nF	2.7 nF	2.7 nF	3.9 nF	4.7 nF	10 nF	12 nF	15 nF	18 nF	27 nF	33 nF	82 nF	82 nF
4KV		82 pF	220 pF	220 pF	680 pF	1.8 nF	1.8 nF	2.2 nF	3.3 nF	6.8 nF	8.2 nF	10 nF	12 nF	18 nF	22 nF	56 nF	56 nF
5KV				150 pF	390 pF	1.0 nF	1.2 nF	1.8 nF	2.2 nF	4.7 nF	5.6 nF	6.8 nF	8.2 nF	12 nF	15 nF	39 nF	39 nF
8KV				47 pF	120 pF	330 pF	330 pF	390 pF	470 pF	1.0 nF	1.2 nF	1.8 nF	2.2 nF	3.3 nF	3.9 nF	10 nF	10 nF
10KV				22 pF	82 pF	180 pF	220 pF	270 pF	330 pF	680 pF	820 pF	1.2 nF	1.5 nF	2.2 nF	2.7 nF	6.8 nF	6.8 nF
12KV										470 pF	560 pF	820 pF	1.0 nF	1.5 nF	1.8 nF	4.7 nF	4.7 nF
15KV										270 pF	330 pF	470 pF	680 pF	820 pF	1.0 nF	2.7 nF	2.7 nF

ORDERING INFORMATION

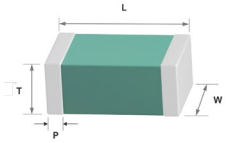
5440	A	101	K	H	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0805 1206 1210 1808 1812 1825 2220 2225 2825 3033 3640 4040 4055 5440 5550 6660 8060 80150 15080	A = NPO	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0,05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10%	G = 1KV Q = 1.5KV H =2KV T = 2.5KV I = 3KV K = 4KV L = 5KV 6 = 6KV 8 = 8KV 10 = 10KV 12 = 12KV 15 = 15KV	X = Nickel Tin F = Palladium-Silver P = Polymer Tin C = Copper Tin W = Nickel Gold Q = Solderable Silver	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us

DIMENSIONS IN MILLIMETERS

		0805	1206	1210	1808	1812	1825	2220	2225	2825	3640	4040	5440	5550	6660	8060	80150	15080
Length (L)		2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	7.10 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0	14.00 ± 1.0	16.80 ± 1.0	20.30 ± 1.0	20.30 ± 1.0	20.30 ± 1.0
Width (W)		1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0	12.70 ± 1.0	15.20 ± 1.0	15.20 ± 1.0	38.10 ± 1.0	38.10 ± 1.0
Thickness max (T)		1.40	1.70	2.50	2.20	3.30	3.60	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Termination (P)	Min	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	Max	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)



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STANDARD SIZE : 0805 to 3640

SIZE		0805			1206				1210				1808					1812						1825						2220						2225						3640						
CODE	CAP	1KV	1.5KV	2KV	1KV	1.5KV	2KV	3KV	4KV	1KV	1.5KV	2KV	3KV	4KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV
0R1	0.1 pF																																															
0R3	0.3 pF																																															
0R5	0.5 pF																																															
0R8	0.8 pF																																															
1R0	1.0 pF																																															
1R2	1.2 pF																																															
1R5	1.5 pF																																															
1R8	1.8 pF																																															
2R2	2.2 pF																																															
2R7	2.7 pF																																															
3R3	3.3 pF																																															
3R9	3.9 pF																																															
4R7	4.7 pF																																															
5R6	5.6 pF																																															
6R8	6.8 pF																																															
8R2	8.2 pF																																															
100	10 pF																																															
120	12 pF																																															
150	15 pF																																															
180	18 pF																																															
220	22 pF																																															
270	27 pF																																															
330	33 pF																																															
390	39 pF																																															
470	47 pF																																															
560	56 pF																																															
680	68 pF																																															
820	82 pF																																															
101	100 pF																																															
121	120 pF																																															
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271	270 pF																																															
331	330 pF																																															
391	390 pF																																															
471	470 pF																																															
561	560 pF																																															
681	680 pF																																															
821	820 pF																																															
102	1.0 nF																																															
122	1.2 nF																																															
152	1.5 nF																																															
182	1.8 nF																																															
222	2.2 nF																																															
272	2.7 nF																																															
332	3.3 nF																																															
392	3.9 nF																																															
472	4.7 nF																																															
562	5.6 nF																																															
682	6.8 nF																																															
822	8.2 nF																																															
103	10 nF																																															
123	12 nF																																															
153	15 nF																																															
183	18 nF																																															
223	22 nF																																															
273	27 nF																																															
333	33 nF																																															
393	39 nF																																															
473	47 nF																																															
563	56 nF																																															
683	68 nF																																															
823	82 nF																																															
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124	120 nF																																															
154	150 nF																																															
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274	270 nF																																															
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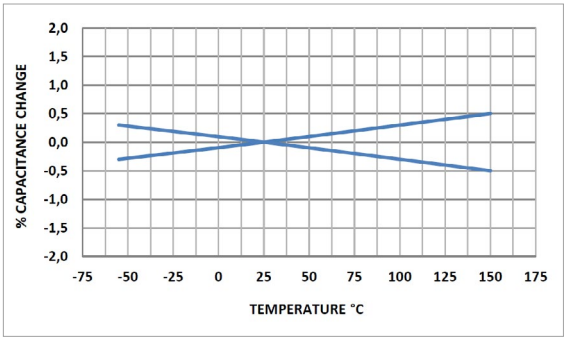
STANDARD SIZE : 4040 to 80150

SIZE		4040									5440									5550									6660									8060									80150									SIZE	
CODE	CAP	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	CAP	CODE
1R2	1.2 pF																																																				1.2 pF	1R2
1R5	1.5 pF																																																				1.5 pF	1R5
1R8	1.8 pF																																																				1.8 pF	1R8
2R2	2.2 pF																																																				2.2 pF	2R2
2R7	2.7 pF																																																				2.7 pF	2R7
3R3	3.3 pF																																																				3.3 pF	3R3
3R9	3.9 pF																																																				3.9 pF	3R9
4R7	4.7 pF																																																				4.7 pF	4R7
5R6	5.6 pF																																																				5.6 pF	5R6
6R8	6.8 pF																																																				6.8 pF	6R8
8R2	8.2 pF																																																				8.2 pF	8R2
100	10 pF																																																				10 pF	100
120	12 pF																																																				12 pF	120
150	15 pF																																																				15 pF	150
180	18 pF																																																				18 pF	180
220	22 pF																																																				22 pF	220
270	27 pF																																																				27 pF	270
330	33 pF																																																				33 pF	330
390	39 pF																																																				39 pF	390
470	47 pF																																																				47 pF	470
560	56 pF																																																				56 pF	560
680	68 pF																																																				68 pF	680
820	82 pF																																																				82 pF	820
101	100 pF																																																				100 pF	101
121	120 pF																																																				120 pF	121
151	150 pF																																																				150 pF	151
181	180 pF																																																				180 pF	181
221	220 pF																																																				220 pF	221
271	270 pF																																																				270 pF	271
331	330 pF																																																				330 pF	331
391	390 pF																																																				390 pF	391
471	470 pF																																																				470 pF	471
561	560 pF																																																				560 pF	561
681	680 pF																																																				680 pF	681
821	820 pF																																																				820 pF	821
102	1.0 nF																																																				1.0 nF	102
122	1.2 nF																																																				1.2 nF	122
152	1.5 nF																																																				1.5 nF	152
182	1.8 nF																																																				1.8 nF	182
222	2.2 nF																																																				2.2 nF	222
272	2.7 nF																																																				2.7 nF	272
332	3.3 nF																																																				3.3 nF	332
392	3.9 nF																																																				3.9 nF	392
472	4.7 nF																																																				4.7 nF	472
562	5.6 nF																																																				5.6 nF	562
682	6.8 nF																																																				6.8 nF	682
822	8.2 nF																																																				8.2 nF	822
103	10 nF																																																				10 nF	103
123	12 nF																																																				12 nF	123
153	15 nF																																																				15 nF	153
183	18 nF																																																				18 nF	183
223	22 nF																																																				22 nF	223
273	27 nF																																																				27 nF	273
333	33 nF																																																				33 nF	333
393	39 nF																																																				39 nF	393
473	47 nF																																																				47 nF	473
563	56 nF																																																				56 nF	563
683	68 nF																																																				68 nF	683
823	82 nF																																																				82 nF	823
104	100 nF																																																				100 nF	104
124	120 nF																																																				120 nF	124
154	150 nF																																																				150 nF	154
184	180 nF																																																				180 nF	184
224	220 nF																																																				220 nF	224
274	270 nF																																																				270 nF	274
334	330 nF																																																				330 nF	334
394	390 nF																																																				390 nF	394
474	470 nF																																																				470 nF	474
564	560 nF																																																				560 nF	564
684	680 nF																																																				680 nF	684
824	820 nF																																																				820 nF	824
105	1.0 µF																																																					

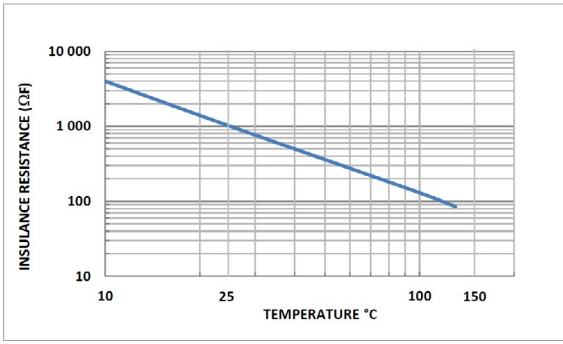
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TYPICAL CHARACTERISTICS

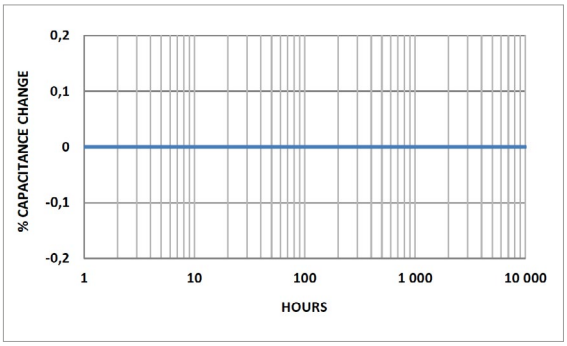
NPO Temperature coefficient of capacitance



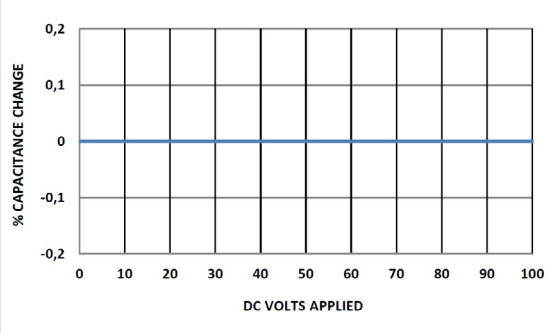
NPO Insulation resistance vs. temperature



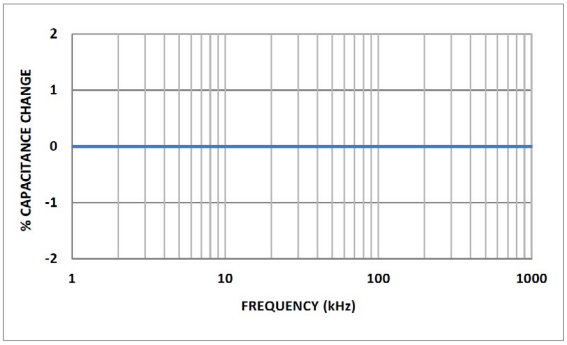
NPO Aging rate



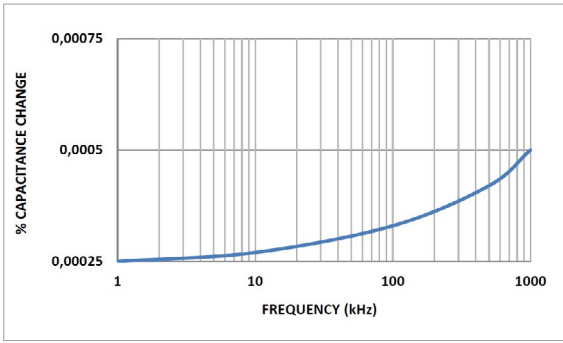
NPO Voltage coefficient of capacitance



NPO Change of Capacitance with Frequency



NPO Dissipation factor vs. frequency



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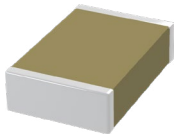
SMD High Voltage N2T

1KV - 15KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : timing, filtering, pulse discharge**



Pb

RoHS compliant

FEATURES

- **Class 1**
- **Close to Class 2 volumetric capacitance, high power**
- **No piezoelectric effect, high current pulse discharge**
- **Custom voltage, package size, capacitance value on request**
- **Available in stack or radial**
- **Surface coating can be necessary to prevent surface arcing**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
-2200 ± 350 ppm/C° with 0Vdc applied

DISSIPATION FACTOR :
≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 100pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 100pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0805	1206	1210	1808	1812	1825	2220	2225	2825	3640	4040	5440	5550	6660	8060	80150	15080
Min	1.0 pF	4.7 pF	4.7 pF	4.7 pF	4.7 pF	10 pF	10 pF	10 pF	10 pF	47 pF	47 pF	47 pF	47 pF	47 pF	47 pF	68 pF	68 pF
1KV	2.2 nF	8.2 nF	22 nF	18 nF	47 nF	100 nF	120 nF	150 nF	180 nF	390 nF	390 nF	560 nF	680 nF	1.0 µF	1.2 µF	3.3 µF	3.3 µF
1.5KV	820 pF	2.7 nF	6.8 nF	6.8 nF	22 nF	56 nF	56 nF	82 nF	100 nF	180 nF	220 nF	270 nF	390 nF	560 nF	680 nF	1.8 µF	1.8 µF
2KV	390 pF	1.2 nF	3.3 nF	3.3 nF	8.2 nF	18 nF	22 nF	33 nF	39 nF	82 nF	82 nF	120 nF	150 nF	220 nF	270 nF	680 nF	680 nF
3KV		470 pF	1.2 nF	1.2 nF	3.3 nF	10 nF	10 nF	12 nF	18 nF	39 nF	39 nF	56 nF	68 nF	100 nF	120 nF	330 nF	330 nF
4KV		220 pF	680 pF	680 pF	1.8 nF	4.7 nF	4.7 nF	6.8 nF	8.2 nF	18 nF	18 nF	27 nF	33 nF	47 nF	56 nF	150 nF	150 nF
5KV				390 pF	1.2 nF	2.7 nF	3.3 nF	4.7 nF	5.6 nF	12 nF	12 nF	18 nF	22 nF	33 nF	39 nF	100 nF	100 nF
8KV				120 pF	390 pF	1.0 nF	1.2 nF	1.2 nF	1.5 nF	3.9 nF	4.7 nF	6.8 nF	8.2 nF	10 nF	12 nF	33 nF	33 nF
10KV									1.0 nF	2.2 nF	2.7 nF	3.9 nF	4.7 nF	6.8 nF	8.2 nF	18 nF	18 nF
12KV										1.5 nF	1.8 nF	2.2 nF	3.3 nF	4.7 nF	5.6 nF	12 nF	12 nF
15KV										820 pF	820 pF	1.5 nF	1.8 nF	2.7 nF	3.3 nF	8.2 nF	8.2 nF

ORDERING INFORMATION

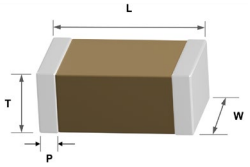
5440	P	101	J	T	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0805 1206 1210 1808 1812 1825 2220 2225 2825 3640 4040 4055 5440 5550 6660 8060 80150 15080	P = N2T	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0,05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10%	G = 1KV O = 1.5KV H =2KV I = 3KV T = 2.5KV K = 4KV L = 5KV 6 = 6KV 8 = 8KV 10 = 10KV 12 = 12KV 15 =1 5KV	X = Nickel Tin F = Palladium-Silver P = Polymer Tin C = Copper Tin W = Nickel Gold Q = Solderable Silver	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us

DIMENSIONS IN MILLIMETERS

		0805	1206	1210	1808	1812	1825	2220	2225	2825	3640	4040	5440	5550	6660	8060	80150	15080
Length (L)		2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	7.10 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0	14.00 ± 1.0	16.80 ± 1.0	20.30 ± 1.0	20.30 ± 1.0	38.10 ± 1.0
Width (W)		1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0	12.70 ± 1.0	15.20 ± 1.0	15.20 ± 1.0	38.10 ± 1.0	20.30 ± 1.0
Thickness max (T)		1.40	1.70	2.50	2.20	3.30	3.60	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Termination (P)	Min	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	Max	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)

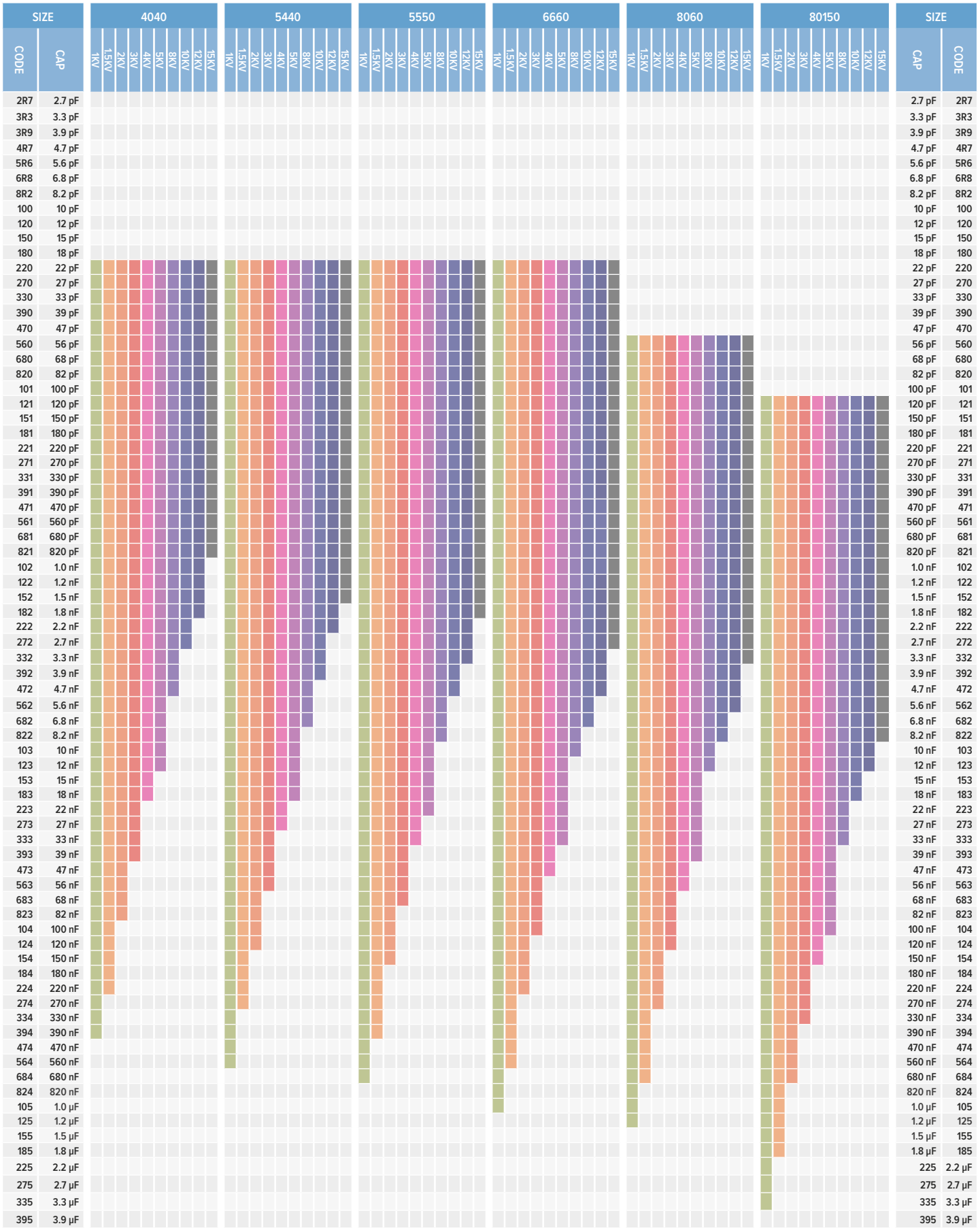


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STANDARD SIZE : 0805 to 3640

SIZE		0805			1206					1210					1808						1812						1825						2220						2225						3640							SIZE	
CODE	CAP	1KV	1.5KV	2KV	1KV	1.5KV	2KV	3KV	4KV	1KV	1.5KV	2KV	3KV	4KV	1KV	1.5KV	2KV	3KV	4KV	5KV	1KV	1.5KV	2KV	3KV	4KV	5KV	1KV	1.5KV	2KV	3KV	4KV	5KV	1KV	1.5KV	2KV	3KV	4KV	5KV	1KV	1.5KV	2KV	3KV	4KV	5KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	CAP	CODE
1R0	1.0 pF																																																		1.0 pF	1R0
1R2	1.2 pF																																																		1.2 pF	1R2
1R5	1.5 pF																																																		1.5 pF	1R5
1R8	1.8 pF																																																		1.8 pF	1R8
2R2	2.2 pF																																																		2.2 pF	2R2
2R7	2.7 pF																																																		2.7 pF	2R7
3R3	3.3 pF																																																		3.3 pF	3R3
3R9	3.9 pF																																																		3.9 pF	3R9
4R7	4.7 pF																																																		4.7 pF	4R7
5R6	5.6 pF																																																		5.6 pF	5R6
6R8	6.8 pF																																																		6.8 pF	6R8
8R2	8.2 pF																																																		8.2 pF	8R2
100	10 pF																																																		10 pF	100
120	12 pF																																																		12 pF	120
150	15 pF																																																		15 pF	150
180	18 pF																																																		18 pF	180
220	22 pF																																																		22 pF	220
270	27 pF																																																		27 pF	270
330	33 pF																																																		33 pF	330
390	39 pF																																																		39 pF	390
470	47 pF																																																		47 pF	470
560	56 pF																																																		56 pF	560
680	68 pF																																																		68 pF	680
820	82 pF																																																		82 pF	820
101	100 pF																																																		100 pF	101
121	120 pF																																																		120 pF	121
151	150 pF																																																		150 pF	151
181	180 pF																																																		180 pF	181
221	220 pF																																																		220 pF	221
271	270 pF																																																		270 pF	271
331	330 pF																																																		330 pF	331
391	390 pF																																																		390 pF	391
471	470 pF																																																		470 pF	471
561	560 pF																																																		560 pF	561
681	680 pF																																																		680 pF	681
821	820 pF																																																		820 pF	821
102	1.0 nF																																																		1.0 nF	102
122	1.2 nF																																																		1.2 nF	122
152	1.5 nF																																																		1.5 nF	152
182	1.8 nF																																																		1.8 nF	182
222	2.2 nF																																																		2.2 nF	222
272	2.7 nF																																																		2.7 nF	272
332	3.3 nF																																																		3.3 nF	332
392	3.9 nF																																																		3.9 nF	392
472	4.7 nF																																																		4.7 nF	472
562	5.6 nF																																																		5.6 nF	562
682	6.8 nF																																																		6.8 nF	682
822	8.2 nF																																																		8.2 nF	822
103	10 nF																																																		10 nF	103
123	12 nF																																																		12 nF	123
153	15 nF																																																		15 nF	153
183	18 nF																																																		18 nF	183
223	22 nF																																																		22 nF	223
273	27 nF																																																		27 nF	273
333	33 nF																																																		33 nF	333
393	39 nF																																																		39 nF	393
473	47 nF																																																		47 nF	473
563	56 nF																																																		56 nF	563
683	68 nF																																																		68 nF	683
823	82 nF																																																		82 nF	823
104	100 nF																																																		100 nF	104
124	120 nF																																																		120 nF	124
154	150 nF																																																		150 nF	154
184	180 nF																																																		180 nF	184
224	220 nF																																																		220 nF	224
274	270 nF																																																		270 nF	274
334	330 nF																																																		330 nF	334
394	390 nF																																																		390 nF	394
474	470 nF																																																		470 nF	474
564	560 nF																																																		560 nF	564
684	680 nF																																																		680 nF	684

STANDARD SIZE : 4040 to 80150



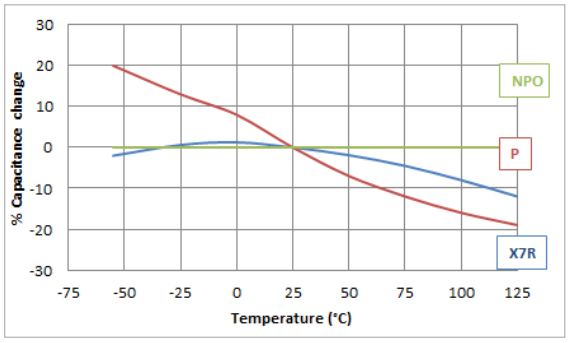
CODE	CAP
2R7	2.7 pF
3R3	3.3 pF
3R9	3.9 pF
4R7	4.7 pF
5R6	5.6 pF
6R8	6.8 pF
8R2	8.2 pF
100	10 pF
120	12 pF
150	15 pF
180	18 pF
220	22 pF
270	27 pF
330	33 pF
390	39 pF
470	47 pF
560	56 pF
680	68 pF
820	82 pF
101	100 pF
121	120 pF
151	150 pF
181	180 pF
221	220 pF
271	270 pF
331	330 pF
391	390 pF
471	470 pF
561	560 pF
681	680 pF
821	820 pF
102	1.0 nF
122	1.2 nF
152	1.5 nF
182	1.8 nF
222	2.2 nF
272	2.7 nF
332	3.3 nF
392	3.9 nF
472	4.7 nF
562	5.6 nF
682	6.8 nF
822	8.2 nF
103	10 nF
123	12 nF
153	15 nF
183	18 nF
223	22 nF
273	27 nF
333	33 nF
393	39 nF
473	47 nF
563	56 nF
683	68 nF
823	82 nF
104	100 nF
124	120 nF
154	150 nF
184	180 nF
224	220 nF
274	270 nF
334	330 nF
394	390 nF
474	470 nF
564	560 nF
684	680 nF
824	820 nF
105	1.0 µF
125	1.2 µF
155	1.5 µF
185	1.8 µF
225	2.2 µF
275	2.7 µF
335	3.3 µF
395	3.9 µF

CAP	CODE
2.7 pF	2R7
3.3 pF	3R3
3.9 pF	3R9
4.7 pF	4R7
5.6 pF	5R6
6.8 pF	6R8
8.2 pF	8R2
10 pF	100
12 pF	120
15 pF	150
18 pF	180
22 pF	220
27 pF	270
33 pF	330
39 pF	390
47 pF	470
56 pF	560
68 pF	680
82 pF	820
100 pF	101
120 pF	121
150 pF	151
180 pF	181
220 pF	221
270 pF	271
330 pF	331
390 pF	391
470 pF	471
560 pF	561
680 pF	681
820 pF	821
1.0 nF	102
1.2 nF	122
1.5 nF	152
1.8 nF	182
2.2 nF	222
2.7 nF	272
3.3 nF	332
3.9 nF	392
4.7 nF	472
5.6 nF	562
6.8 nF	682
8.2 nF	822
10 nF	103
12 nF	123
15 nF	153
18 nF	183
22 nF	223
27 nF	273
33 nF	333
39 nF	393
47 nF	473
56 nF	563
68 nF	683
82 nF	823
100 nF	104
120 nF	124
150 nF	154
180 nF	184
220 nF	224
270 nF	274
330 nF	334
390 nF	394
470 nF	474
560 nF	564
680 nF	684
820 nF	824
1.0 µF	105
1.2 µF	125
1.5 µF	155
1.8 µF	185
225	2.2 µF
275	2.7 µF
335	3.3 µF
395	3.9 µF

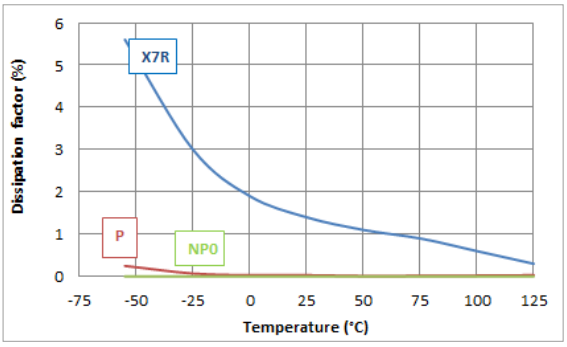
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TYPICAL CHARACTERISTICS

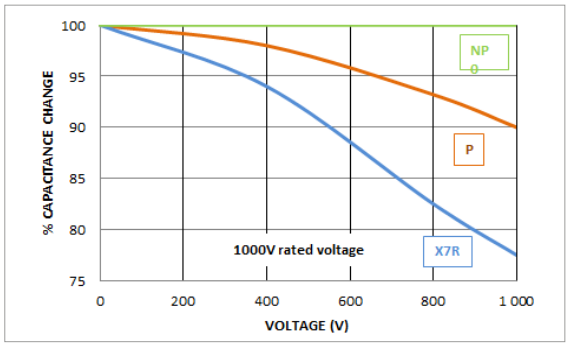
N2T Capacitance vs. temperature



N2T Dissipation factor vs. temperature

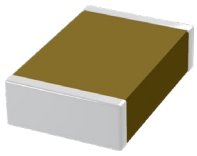


N2T Capacitance vs. voltage



APPLICATIONS

- **Typical uses : passing, coupling, filtering, blocking**



RoHS compliant

FEATURES

- **Temperature stable class II ceramic**
- **Custom voltage, package size, capacitance value on request**
- **Tested in accordance to CECC 32100 and AEC-Q200**
- **CECC 30700 et NFC 83-132 compliant**
- **Available in stack or radial**
- **Surface coating can be necessary to prevent surface arcing**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
± 15% with 0Vdc applied

DISSIPATION FACTOR :
≤ 2.5% at 1kHz for C ≥ 100pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0805	1206	1210	1808	1812	1825	2220	2225	2825	3640	4040	5440	5550	6660	8060	80150	15080
Min	6.8 pF	10 pF	10 pF	10 pF	10 pF	33 pF	33 pF	33 pF	33 pF	100 pF	100 pF	100 pF	100 pF	100 pF	100 pF	180 pF	180 pF
1KV	5.6 nF	15 nF	47 nF	39 nF	120 nF	330 nF	330 nF	470 nF	560 nF	1.2 µF	1.2 µF	1.8 µF	2.2 µF	3.3 µF	3.9 µF	10 µF	10 µF
1.5KV	1.8 nF	5.6 nF	18 nF	15 nF	56 nF	120 nF	150 nF	180 nF	220 nF	470 nF	560 nF	680 nF	1.0 µF	1.2 µF	1.5 µF	3.9 µF	3.9 µF
2KV	820 pF	2.7 nF	8.2 nF	8.2 nF	22 nF	56 nF	68 nF	82 nF	120 nF	270 nF	270 nF	390 nF	470 nF	680 nF	820 nF	2.2 µF	2.2 µF
3KV		1.0 nF	2.7 nF	3.3 nF	8.2 nF	22 nF	27 nF	39 nF	47 nF	100 nF	120 nF	150 nF	180 nF	270 nF	330 nF	820 nF	820 nF
4KV		470 pF	1.5 nF	1.5 nF	4.7 nF	12 nF	15 nF	18 nF	27 nF	56 nF	56 nF	82 nF	100 nF	150 nF	180 nF	470 nF	470 nF
5KV				820 pF	2.7 nF	6.8 nF	8.2 nF	12 nF	15 nF	33 nF	33 nF	47 nF	56 nF	82 nF	100 nF	270 nF	270 nF
8KV				270 pF	1.0 nF	2.7 nF	2.7 nF	3.3 nF	3.9 nF	8.2 nF	10 nF	15 nF	18 nF	27 nF	33 nF	82 nF	82 nF
10KV							1.5 nF	1.8 nF	2.2 nF	4.7 nF	5.6 nF	8.2 nF	10 nF	15 nF	18 nF	47 nF	47 nF
12KV										3.3 nF	3.9 nF	5.6 nF	6.8 nF	10 nF	12 nF	27 nF	27 nF
15KV										1.8 nF	2.2 nF	3.3 nF	3.9 nF	5.6 nF	6.8 nF	18 nF	18 nF

ORDERING INFORMATION

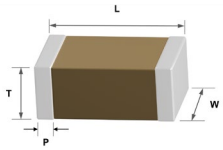
5440	Y	103	K	H	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0805 1206 1210 1808 1812 1825 2220 2225 2825 3033 3640 4040 4055 40100 5550 6660 8060 80150	Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	G = 1KV O = 1.5KV H = 2KV T = 2.5KV I = 3KV K = 4KV L = 5KV 6 = 6KV 8 = 8KV 10 = 10KV 12 = 12KV 15 = 15KV	X = Nickel Tin F = Palladium-Silver P = Polymer Tin C = Copper Tin W = Nickel Gold	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

		0805	1206	1210	1808	1812	1825	2220	2225	2825	3640	4040	5440	5550	6660	8060	80150	15080
Length (L)		2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	7.10 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0	14.00 ± 1.0	16.80 ± 1.0	20.30 ± 1.0	20.30 ± 1.0	38.10 ± 1.0
Width (W)		1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0	12.70 ± 1.0	15.20 ± 1.0	15.20 ± 1.0	38.10 ± 1.0	20.30 ± 1.0
Thickness max (T)		1.40	1.70	2.50	2.20	3.30	3.60	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Termination (P)	Min	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	Max	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W)



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STANDARD SIZE : 0805 to 3640

SIZE		0805			1206					1210					1808						1812							1825							2220							2225							3640								SIZE	
CODE	CAP	1KV	1.5KV	2KV	1KV	1.5KV	2KV	3KV	4KV	1KV	1.5KV	2KV	3KV	4KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	CAP	CODE
220	22 pF																																																						22 pF	220
270	27 pF																																																								27 pF	270
330	33 pF																																																							33 pF	330
390	39 pF																																																							39 pF	390
470	47 pF																																																							47 pF	470
560	56 pF																																																							56 pF	560
680	68 pF																																																							68 pF	680
820	82 pF																																																							82 pF	820
101	100 pF																																																							100 pF	101
121	120 pF																																																							120 pF	121
151	150 pF																																																							150 pF	151
181	180 pF																																																							180 pF	181
221	220 pF																																																							220 pF	221
271	270 pF																																																							270 pF	271
331	330 pF																																																							330 pF	331
391	390 pF																																																							390 pF	391
471	470 pF																																																							470 pF	471
561	560 pF																																																							560 pF	561
681	680 pF																																																							680 pF	681
821	820 pF																																																							820 pF	821
102	1.0 nF																																																						1.0 nF	102
122	1.2 nF																																																					1.2 nF	122
152	1.5 nF																																																					1.5 nF	152
182	1.8 nF																																																					1.8 nF	182
222	2.2 nF																																																					2.2 nF	222
272	2.7 nF																																																					2.7 nF	272
332	3.3 nF																																																					3.3 nF	332
392	3.9 nF																																																					3.9 nF	392
472	4.7 nF																																																					4.7 nF	472
562	5.6 nF																																																					5.6 nF	562
682	6.8 nF																																																					6.8 nF	682
822	8.2 nF																																																					8.2 nF	822
103	10 nF																																																					10 nF	103
123	12 nF																																																					12 nF	123
153	15 nF																																																					15 nF	153
183	18 nF																																																					18 nF	183
223	22 nF																																																					22 nF	223
273	27 nF																																																					27 nF	273
333	33 nF																																																					33 nF	333
393	39 nF																																																					39 nF	393
473	47 nF																																																					47 nF	473
563	56 nF																																																					56 nF	563
683	68 nF																																																					68 nF	683
823	82 nF																																																					82 nF	823
104	100 nF																																																					100 nF	104
124	120 nF																																																					120 nF	124
154	150 nF																																																					150 nF	154
184	180 nF																																																					180 nF	184
224	220 nF																																																					220 nF	224
274	270 nF																																																					270 nF	274
334	330 nF																																																					330 nF	334
394	390 nF																																																					390 nF	394
474	470 nF																																																					470 nF	474
564	560 nF																																																					560 nF	564
684	680 nF																																																					680 nF	684
824	820 nF																																																					820 nF	824
105	1.0 µF																																																					1.0 µF	105
125	1.2 µF																																																				1.2 µF	125
155	1.5 µF																																																				1.5 µF	155
185	1.8 µF																																																				1.8 µF	185
225	2.2 µF																																																				2.2 µF	225
275	2.7 µF																																																				2.7 µF	275
335	3.3 µF																																																				3.3 µF	335
395	3.9 µF																																																				3.9 µF	395
475	4.7 µF																																																				4.7 µF	475
565	5.6 µF																																																				5.6 µF	565
685	6.8 µF																																																				6.8 µF	685
825	8.2 µF																																																				8.2 µF	825
106	10 µF																																																				10 µF	106
126	12 µF																																																				12 µF	126
156	15 µF																																																				15 µF	156

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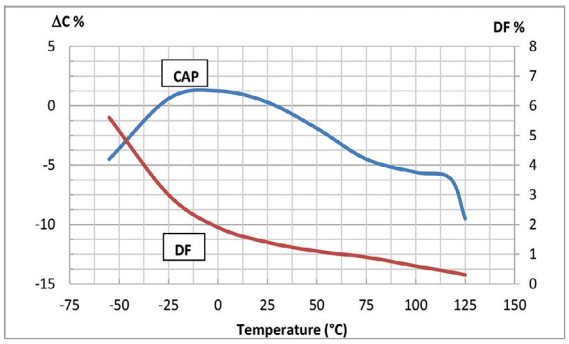
STANDARD SIZE : 4040 to 80150

SIZE		4040									5440									5550									6660									8060									80150									SIZE	
CODE	CAP	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	1KV	1.5KV	2KV	3KV	4KV	5KV	8KV	10KV	12KV	15KV	CAP	CODE
220	22 pF																																																			22 pF	220
270	27 pF																																																						27 pF	270
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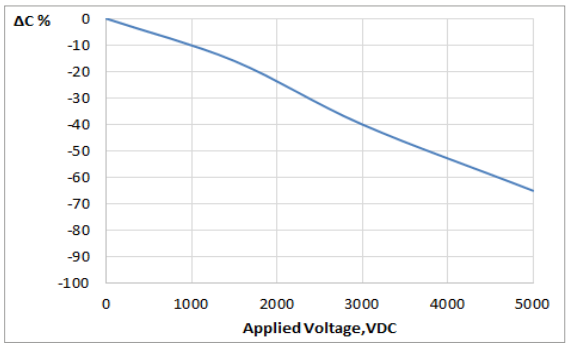
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TYPICAL CHARACTERISTICS

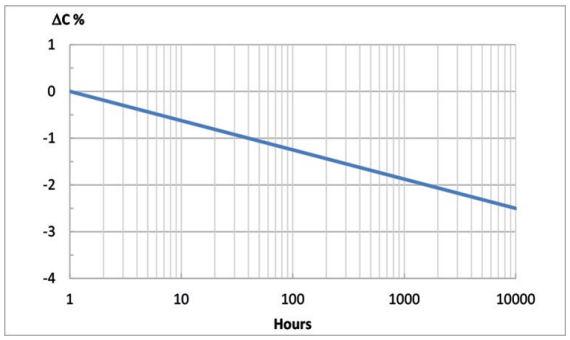
X7R Capacitance and factor vs temperature



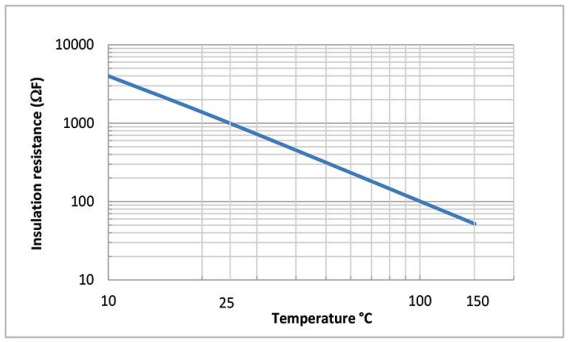
X7R Voltage coefficient of capacitance



X7R Aging



X7R Insulation resistance vs temperature



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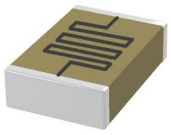
SMD Pulse Energy Capacitor

1000V-3000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : detonators and ignition system, downhole, plasma generation**







FEATURES

- **Non piezo pulse ceramic, stable, high constant**
- **Temperature up to 200°C**
- **Available in stack with J L M Leads**
- **SRMC 1 or 2 chips : add 1.8mm to chips height**
- **SRHS 1 chip, SRHD 2 chips : add 1.3mm to chips height**
- **Thick film bleed resistor with glass cover in option**
- **High current short duration pulse**
- **Tested to 1 million pulses without degradation**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 200°C

TEMPERATURE COEFFICIENT :
-2200 ± 350 ppm/C° with 0Vdc applied

DISSIPATION FACTOR :
≤ 1.10^{-3} at 1Vrms and 1KHz f

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

QUICK REFERENCE DATA (MAX)

	2225	3040	3640	4040	4055	5550	6660	7565
1000V	120 nF	270 nF	330 nF	330 nF	470 nF	680 nF	1.0 µF	1.2 µF
1200V	100 nF	180 nF	220 nF	270 nF	390 nF	560 nF	820 nF	1.0 µF
1400V	82 nF	150 nF	180 nF	220 nF	300 nF	390 nF	560 nF	820 nF
1500V	82 nF	150 nF	180 nF	200 nF	270nF	390 nF	560 nF	680 nF
1700V	56 nF	100 nF	120 nF	150 nF	220 nF	270 nF	430 nF	560 nF
2000V	33 nF	68 nF	90 nF	110 nF	150nF	200 nF	330 nF	390 nF
2500V	18 nF	39 nF	47 nF	56 nF	82 nF	100 nF	150 nF	180 nF
3000V	12 nF	27 nF	33 nF	39 nF	56 nF	68 nF	90 nF	120 nF

Max value for 1 Chip, Double the value for 2 Chips SRMC or SRHD

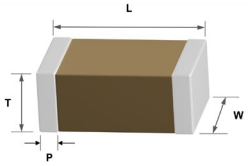
ORDERING INFORMATION

-	4040	P	803	K	H	X	-	-	R	B	-
STACK	**SIZE**	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**FORM**	**HEIGHT**	**RESISTOR**	**PACKAGING**	**SPECIAL PARAMETERS**
- SRMC SRHS SRHD	2225 3040 3640 4040 4055 5550 6660 7565	P = N2T	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	G = 1000V 1K2 = 1200V 1K4 = 1400V O = 1500V 1K7 = 1700V H = 2000V T = 2500V I = 3000V	X = Nickel Tin (up to 200°C) H = Dipped SnPb (up to 200°C) S = Dipped SAC (up to 200°C) I = Electrolytic SnPb (up to 200°C) F = Palladium-Silver (up to 250°C) Q = Solderable Silver (up to 250°C)	- J L M	- XXX	- R = Resistor	B = Reel	- Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS (WITHOUT LEADS)

		2225	3040	3640	4040	4055	5550	6660	7565
Length (L)		5.60 ± 0.4	7.60± 0.8	9.15 ± 0.8	10.20 ± 0.8	10.20 ± 1.0	14.00 ± 1.0	16.80 ± 1.0	19.10 ± 1.0
Width (W)		6.35 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 0.8	14.00 ± 1.0	12.70 ± 1.0	15.20 ± 1.0	16.50 ± 1.0
Thickness max (T)		4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Termination (P)	Min	0.25	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	Max	1.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50



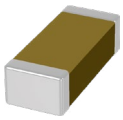
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SMD Very High Voltage

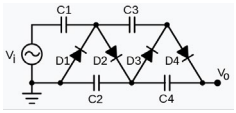
8KV-15KV

APPLICATIONS

- **Voltage multipliers for X-Ray, Plasma, Electrospray...**







FEATURES

- **Alternative to disc capacitor**
- **Compact SMD design**
- **Custom voltage, package size, capacitance value on request**
- **Polymer and non magnetic termination available**
- **NPO best electrical performance**
- **N2T best volumetric capacitance under voltage**
- **X7R best volumetric capacitance with no DC Bias**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0, N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
: ≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

QUICK REFERENCE DATA (MAX)

	4010			4012			4015			4017			4020			4030			4040			5550		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
8KV	180 pF	560 pF	1.3 nF	270 pF	1.0 nF	2.2 nF	430 pF	1.3 nF	3.6 nF	510 pF	1.8 nF	3.9 nF	510 pF	2.0 nF	5.1 nF	910 pF	3.3 nF	7.5 nF	1.3 nF	4.7 nF	11 nF	2.4 nF	8.2 nF	20 nF
9KV	150 pF	390 pF	910 pF	220 pF	680 pF	1.6 nF	390 pF	1.1 nF	2.7 nF	430 pF	1.3 nF	3.3 nF	430 pF	1.6 nF	3.9 nF	820 pF	2.4 nF	6.2 nF	1.1 nF	3.3 nF	8.2 nF	2.0 nF	6.2 nF	16 nF
10KV	120 pF	300 pF	750 pF	160 pF	510 pF	1.3 nF	300 pF	820 pF	2.2 nF	360 pF	1.0 nF	2.4 nF	390 pF	1.2 nF	3.0 nF	680 pF	1.8 nF	4.3 nF	910 pF	2.7 nF	6.2 nF	1.6 nF	4.7 nF	11 nF
11KV	91 pF	240 pF	510 pF	130 pF	390 pF	910 pF	220 pF	680 pF	1.3 nF	270 pF	820 pF	1.6 nF	270 pF	1.0 nF	2.0 nF	470 pF	1.5 nF	3.0 nF	620 pF	2.0 nF	4.3 nF	1.2 nF	3.9 nF	8.2 nF
12KV	68 pF	180 pF	430 pF	120 pF	300 pF	750 pF	200 pF	560 pF	1.3 nF	240 pF	750 pF	1.5 nF	240 pF	910 pF	1.8 nF	430 pF	1.3 nF	2.7 nF	560 pF	1.8 nF	3.9 nF	1.1 nF	3.3 nF	7.5 nF
13KV	56 pF	130 pF	360 pF	100 pF	240 pF	620 pF	130 pF	430 pF	1.0 nF	160 pF	560 pF	1.2 nF	200 pF	750 pF	1.3 nF	330 pF	1.0 nF	2.2 nF	430 pF	1.3 nF	3.0 nF	820 pF	2.7 nF	6.2 nF
14KV	47 pF	110 pF	270 pF	82 pF	200 pF	510 pF	130 pF	360 pF	820 pF	150 pF	470 pF	1.0 nF	180 pF	560 pF	1.0 nF	300 pF	820 pF	1.8 nF	390 pF	1.2 nF	2.4 nF	750 pF	2.2 nF	4.3 nF
15KV	39 pF	91 pF	240 pF	75 pF	160 pF	430 pF	110 pF	300 pF	750 pF	130 pF	390 pF	910 pF	160 pF	470 pF	910 pF	270 pF	680 pF	1.6 nF	360 pF	910 pF	2.2 nF	680 pF	1.8 nF	3.9 nF

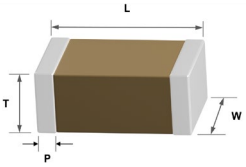
ORDERING INFORMATION

4040	P	803	K	15	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
4010 4012 4015 4017 4020 4030 4040 5550	A = NPO P = N2T Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	8 = 8KV 9 = 9KV 10 = 10KV 11 = 11KV 12 = 12KV 13 = 13KV 14 = 14KV 15= 15KV	X = Nickel Tin P = Polymer Tin C = Copper Tin CP = Polymer Copper Tin	B = Reel	- Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

		4010	4012	4015	4017	4020	4030	4040	5550
Length (L)		10.20 ± 0.8	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0	10.20 ± 0.8	14.00 ± 1.0
Width (W)		2.50 ± 0.8	3.00 ± 0.8	3.80 ± 0.8	4.30 ± 0.8	5.10 ± 0.8	7.60 ± 1.0	10.20 ± 0.8	12.70 ± 1.0
Thickness max (T)		2.40	3.00	3.80	4.30	4.30	4.30	4.30	4.30
Termination (P)	Min	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	Max	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50



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Non Magnetic SMD

50V - 10KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- Magnetic resonance imaging
- Medical test equipement
- Laboratory analyze system
- Audio amplifier
- Particle accelerator







FEATURES

- Non magnetic material : precious metal inner electrode, copper barrier
- All size/voltage available in non magnetic form
- Custom voltage, package size, capacitance value on request
- Tested in accordance to AEC-Q200 methodology
- Magnetic properties tested
- Polymer termination available

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0, N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
: ≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0402			0504			0603			0805			1206			1210			1808		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
Min	0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	1.0 pF	6.8 pF	0.4 pF	4.7 pF	10 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	4.7 pF	10 pF
25V	270 pF	1.2 nF	8.2 nF	1.5 nF	5.6 nF	39 nF	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	10 nF	39 nF	220 nF	15 nF	68 nF	390 nF	22 nF	82 nF	470 nF
50V	270 pF	1.2 nF	8.2 nF	1.5 nF	5.6 nF	39 nF	1.2 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	10 nF	39 nF	220 nF	15 nF	68 nF	390 nF	22 nF	82 nF	470 nF
100V	270 pF	1.2 nF	8.2 nF	1.5 nF	5.6 nF	39 nF	1.2 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	10 nF	39 nF	220 nF	15 nF	68 nF	390 nF	22 nF	82 nF	470 nF
200V	270 pF	1.0 nF	6.8 nF	1.2 nF	5.6 nF	39 nF	1.2 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	10 nF	39 nF	220 nF	15 nF	68 nF	390 nF	22 nF	82 nF	470 nF
500V	180 pF	330 pF	1.2 nF	1.0 nF	1.8 nF	6.8 nF	1.0 nF	1.8 nF	6.8 nF	3.3 nF	6.8 nF	27 nF	8.2 nF	22 nF	82 nF	15 nF	39 nF	180 nF	18 nF	47 nF	220 nF
1000V							220 pF	390 pF	1.2 nF	820 pF	1.8 nF	5.6 nF	2.7 nF	5.6 nF	15 nF	6.8 nF	15 nF	47 nF	6.8 nF	15 nF	39 nF
2000V										150 pF	270 pF	820 pF	560 pF	820 pF	2.7 nF	1.5 nF	2.7 nF	8.2 nF	1.2 nF	2.2 nF	8.2 nF
3000V													180 pF	330 pF	1.0 nF	470 pF	1.0 nF	2.7 nF	470 pF	1.0 nF	3.3 nF

	1825			2220			2225			3033			3640			4040			5440		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
Min	1.0 pF	10 pF	33 pF	1.0 pF	10 pF	33 pF	1.0 pF	10 pF	33 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF
50V	82 nF	270 nF	1.8 µF	82 nF	330 nF	1.8 µF	100 nF	390 nF	2.2 µF	150 nF	680 nF	3.9 µF	220 nF	820 nF	5.6 µF	270 nF	1.0 µF	5.6 µF	330 nF	1.2 µF	8.2 µF
100V	82 nF	270 nF	1.8 µF	82 nF	330 nF	1.8 µF	100 nF	390 nF	2.2 µF	150 nF	680 nF	3.9 µF	220 nF	820 nF	5.6 µF	270 nF	1.0 µF	5.6 µF	330 nF	1.2 µF	8.2 µF
200V	82 nF	270 nF	1.8 µF	82 nF	330 nF	1.8 µF	100 nF	390 nF	2.2 µF	150 nF	680 nF	3.9 µF	220 nF	820 nF	5.6 µF	270 nF	1.0 µF	5.6 µF	330 nF	1.2 µF	8.2 µF
500V	68 nF	180 nF	820 nF	68 nF	180 nF	820 nF	82 nF	220 nF	1.0 µF	150 nF	390 nF	1.8 µF	220 nF	560 nF	2.7 µF	270 nF	680 nF	2.7 µF	330 nF	1.0 µF	3.9 µF
630V	56 nF	150 nF	560 nF	56 nF	150 nF	560 nF	68 nF	180 nF	820 nF	120 nF	330 nF	1.2 µF	180 nF	470 nF	1.8 µF	220 nF	560 nF	2.2 µF	270 nF	680 nF	2.7 µF
1000V	33 nF	82 nF	330 nF	39 nF	100 nF	330 nF	47 nF	120 nF	470 nF	82 nF	220 nF	820 nF	120 nF	330 nF	1.2 µF	120 nF	330 nF	1.2 µF	180 nF	470 nF	1.8 µF
2000V	10 nF	15 nF	56 nF	12 nF	15 nF	68 nF	15 nF	18 nF	82 nF	27 nF	39 nF	180 nF	39 nF	56 nF	270 nF	47 nF	56 nF	270 nF	56 nF	82 nF	390 nF
3000V	2.7 nF	5.6 nF	22 nF	2.7 nF	6.8 nF	27 nF	3.9 nF	8.2 nF	33 nF	6.8 nF	15 nF	56 nF	10 nF	22 nF	82 nF	12 nF	27 nF	100 nF	15 nF	33 nF	120 nF
10KV	220 pF	270 pF		270 pF	470 pF	1.2 nF	330 pF	680 pF	1.8 nF	680 pF	1.2 nF	3.3 nF	1.0 nF	1.8 nF	4.7 nF	1.0 nF	1.8 nF	5.6 nF	1.5 nF	2.7 nF	6.8 nF

ORDERING INFORMATION

0603	A	103	J	B	C	B	-
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAMETERS
0402 0504 0603 0805 1206 1210 1808 1812 1825 2220 2225 2825 3033 3640 4040 5440	A = NPO P = N2T Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0,05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	X = 25V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V H=2000V I=3000V 10=10000V	C = Copper Tin (Non magnetic) CP = Copper Polymer Tin (Non magnetic)	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

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Space Medical application

6.3V - 1KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Improved reliabilty termination**
- **Whisker free**
- **Space and medical and oil application**
- **PME manufactured or AEC-Q200 BME sourced components**
- **High Reliability testing, burn-in, screening available according to MIL-PRF-55681, ESCC3009 or specific reliability program**







FEATURES

- **Choice between :**
- **Electrolytical SnPb (10% min Pb)**
- **Dipped SnPb (Sn62 Pb36 Ag2)**
- **Dipped SAC (Sn96.5 Ag3 Cu0.5) ROHS**
- **Other size/voltage available on demand**
- **Other passive/active component dipping on demand**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0, N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
: ≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0201		0402			0603			0805			1206			1210			1812			2220		
	NP0	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
Min			0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	1.0 pF	6.8 pF	0.4 pF	4.7 pF	10 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF
6.3V		*100 nF*	*2.2 nF*	1.2 nF	*1 µF*	*10 nF*	5.6 nF	*4.7 µF*	*33 nF*	15 nF	*10 µF*	*220 nF*	39 nF	*22 µF*	*100 nF*	68 nF	*47 µF*	*220 nF*	120 nF	*33 µF*	*470 nF*	330 nF	*47 µF*
10V			*2.2 nF*	1.2 nF	*1 µF*	*10 nF*	5.6 nF	*2.2 µF*	*33 nF*	15 nF	*10 µF*	*220 nF*	39 nF	*22 µF*	*100 nF*	68 nF	*22 µF*	*220 nF*	120 nF	*33 µF*	*470 nF*	330 nF	*47 µF*
16V		*10 nF*	*2.2 nF*	1.2 nF	*470 nF*	*10 nF*	5.6 nF	*1.0 µF*	*33 nF*	15 nF	*10 µF*	*220 nF*	39 nF	*10 µF*	*100 nF*	68 nF	*22 µF*	*220 nF*	120 nF	*33 µF*	*470 nF*	330 nF	*47 µF*
25V	*1.0 nF*	*6.8 nF*	*2.2 nF*	1.2 nF	*220 nF*	*10 nF*	5.6 nF	*1.0 µF*	*33 nF*	15 nF	*4.7 µF*	*220 nF*	39 nF	*10 µF*	*120 nF*	68 nF	*22 µF*	*220 nF*	120 nF	*22 µF*	*470 nF*	330 nF	*47 µF*
50V	*220 pF*	*1.0 nF*	*1.5 nF*	1.2 nF	*100 nF*	*10 nF*	5.6 nF	*1.0 µF*	*33 nF*	15 nF	*4.7 µF*	*220 nF*	39 nF	*10 µF*	*100 nF*	68 nF	*10 µF*	*220 nF*	120 nF	*6.8 µF*	*470 nF*	330 nF	*22 µF*
63V			*1.0 nF*	1.2 nF	10 nF	*10 nF*	5.6 nF	*100 nF*	*33 nF*	15 nF	*2.2 µF*	*100 nF*	39 nF	*2.2 µF*	*100 nF*	68 nF	*10 µF*	*100 nF*	120 nF	*2.2 µF*	*330 nF*	330 nF	*10 µF*
100V			*1.0 nF*	1.2 nF	10 nF	*10 nF*	5.6 nF	*100 nF*	*33 nF*	15 nF	*2.2 µF*	*100 nF*	39 nF	*2.2 µF*	*100 nF*	68 nF	*4.7 µF*	*100 nF*	120 nF	*2.2 µF*	*330 nF*	330 nF	*10 µF*
200V			*330 pF*	1.0 nF	6.8 nF	*2.2 nF*	5.6 nF	39 nF	10 nF	15 nF	470 nF	*22 nF*	39 nF	220 nF	*47 nF*	68 nF	1.0 µF	*100 nF*	120 nF	1.0 µF	*150 nF*	330 nF	2.2 µF
250V			*330 pF*	1.0 nF	5.6 nF	*2.2 nF*	5.6 nF	27 nF	10 nF	15 nF	82 nF	*22 nF*	39 nF	220 nF	*47 nF*	68 nF	680 nF	100 nF	120 nF	1.0 µF	150 nF	330 nF	2.2 µF
500V			180 pF	330 pF	1.2 nF	1.0 nF	1.8 nF	6.8 nF	3.3 nF	6.8 nF	33 nF	8.2 nF	22 nF	82 nF	15 nF	39 nF	180 nF	33 nF	82 nF	470 nF	68 nF	180 nF	1.0 µF
630V						560 pF	1.2 nF	3.9 nF	2.2 nF	4.7 nF	33 nF	6.8 nF	15 nF	56 nF	12 nF	33 nF	120 nF	27 nF	68 nF	270 nF	56 nF	150 nF	1.0 µF
1000V						220 pF	390 pF	1.2 nF	820 pF	1.8 nF	5.6 nF	2.7 nF	5.6 nF	27 nF	6.8 nF	15 nF	68 nF	15 nF	39 nF	150 nF	39 nF	100 nF	470 nF

Max values italic obtained with BME parts

ORDERING INFORMATION

0603	A	103	J	B	I	B	-	-
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	PACKAGING	SPECIAL PARAMETERS
0201 0402 0603 0805 1206 1210 1812 2220	A = NPO P = N2T Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	R = 6.3V Q = 10V J= 16V X = 25V Z = 35V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V	H = Dipped SnPb S = Dipped SAC I = Electrolytic SnPb	B = Reel V = Bulk	- = PME BM = BME	- D55681 = iec MIL-PRF55681 D3009 = iec ESCC3009 Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, ceramic tolerance contact us

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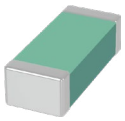
SMD High Temperature Class I

10V-2000V 200°C-250°C

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : timing, precision circuitry, filtering for High Temperature environement**







FEATURES

- **Ultra stable temperature compensating classe I ceramic up to 250°C**
- **Robust design for High Temperature durability**
- **ROHS Tin Termination or Non ROHS SnPb for use up to 200°C (use HMP soldering)**
- **Gold/Silver-Palladium/Solderable Silver for use up to 250°C (use High-Temperature Epoxy)**
- **Custom voltage, package size, capacitance value on request**
- **168H/125°C Burn-In option for maximum reliability**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 250°C

TEMPERATURE COEFFICIENT :
± 30ppm with 0Vdc applied

DISSIPATION FACTOR :
≤ 1.10-3 at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10-3 at 1Vrms and 1KHz for values > 1000pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
200°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less
250°C/Un $5x10^3$ MOhm or 50 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0402	0603	0805	1206	1210	1808	1812	1825	2220	2225	2525	2825	3033	3640	4040	5440	6660
Min	0.1 pF	0.1 pF	0.1 pF	0.4 pF	0.4 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	1.0 pF	4.7 pF	10 pF	10 pF	10 pF	10 pF	10 pF
10V	*2.2 nF*	*27 nF*	*47 nF*	*220 nF*	*220 nF*	22 nF	*220 nF*	*100 nF*	*470 nF*	100 nF	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF	560 nF
25V	*1.5 nF*	*10 nF*	*47 nF*	*220 nF*	*150 nF*	22 nF	*220 nF*	*100 nF*	*470 nF*	100 nF	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF	560 nF
50V	*330 pF*	*2.2 nF*	*10 nF*	*22 nF*	*47 nF*	22 nF	*100 nF*	82 nF	*150 nF*	100 nF	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF	560 nF
63V	*330 pF*	*2.2 nF*	*10 nF*	*22 nF*	*47 nF*	22 nF	*100 nF*	82 nF	*150 nF*	100 nF	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF	560 nF
100V	220 pF	1.2 nF	3.9 nF	10 nF	15 nF	22 nF	33 nF	82 nF	82 nF	100 nF	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF	560 nF
200V	180 pF	1.0 nF	3.3 nF	8.2 nF	15 nF	18 nF	33 nF	68 nF	68 nF	82 nF	100 nF	120 nF	150 nF	220 nF	270 nF	330 nF	560 nF
250V		560 pF	2.2 nF	6.8 nF	12 nF	15 nF	27 nF	56 nF	56 nF	68 nF	82 nF	82 nF	120 nF	180 nF	220 nF	270 nF	470 nF
500V		150 pF	560 pF	1.8 nF	4.7 nF	4.7 nF	12 nF	27 nF	27 nF	33 nF	39 nF	47 nF	68 nF	82 nF	100 nF	120 nF	270 nF
630V		68 pF	330 pF	1.0 nF	2.7 nF	2.7 nF	8.2 nF	18 nF	18 nF	27 nF	27 nF	33 nF	47 nF	68 nF	68 nF	100 nF	180 nF
1000V			150 pF	560 pF	1.5 nF	1.2 nF	3.9 nF	10 nF	12 nF	15 nF	18 nF	18 nF	27 nF	39 nF	47 nF	56 nF	120 nF
1500V				180 pF	470 pF	470 pF	1.2 nF	2.7 nF	2.7 nF	3.9 nF	4.7 nF	4.7 nF	6.8 nF	10 nF	12 nF	15 nF	27 nF
2000V				82 pF	220 pF	220 pF	680 pF	1.8 nF	1.8 nF	2.2 nF	2.7 nF	3.3 nF	4.7 nF	6.8 nF	8.2 nF	10 nF	18 nF
3000V												1.2 nF	1.8 nF	2.7 nF	2.7 nF	3.9 nF	6.8 nF

Max values italic obtained with BME parts

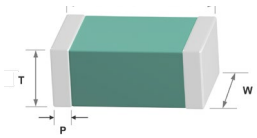
ORDERING INFORMATION

H	0603	A	101	J	B	F	B	D03
SERIE	**SIZE**	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
High-Température	0402 0603 0805 1206 1210 1808 1812 1825 2220 2225 2525 2825 3033 3640 4040 5440 6660	A = NPO	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10%	Q = 10V J = 16V X = 25V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V O = 1500V H = 2000V I = 2000V	X = Nickel Tin (up to 200°C) H = Dipped SnPb (up to 200°C) S = Dipped SAC (up to 200°C) I = Electrolytic SnPb (up to 200°C) F = Palladium-Silver (up to 250°C) W = Nickel Gold (up to 250°C) Q = Solderable Silver (up to 250°C)	B = Reel V = Bulk	- D03 = Burn-In 168H/125°C BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

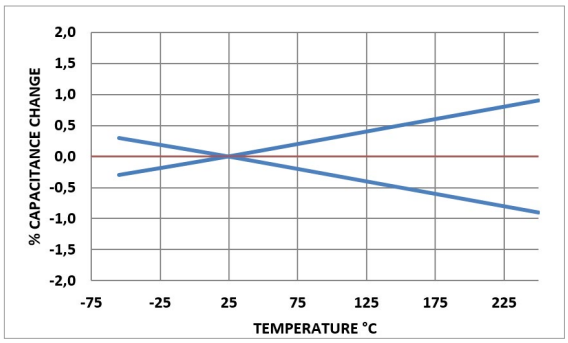
		0402	0603	0805	1111	1206	1210	1808	1812	1825	2220	2225	2525	2825	3033	3640	4040	5440
Length (L)		1.00 ± 0.1	1.60 ± 0.2	2.00 ± 0.2	2.80 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	4.60 ± 0.3	4.60 ± 0.4	5.60 ± 0.4	5.60 ± 0.4	6.35 ± 0.4	7.10 ± 0.4	7.60 ± 0.4	9.15 ± 0.8	10.20 ± 0.8	13.70 ± 1.0
Width (W)		0.50 ± 0.1	0.80 ± 0.2	1.25 ± 0.2	2.80 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.8	10.20 ± 0.8	10.20 ± 1.0
Thickness max (T)		0.60	0.92	1.40	2.60	1.70	2.50	2.20	3.30	3.60	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Termination (P)	Min	0.10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.80	0.80	0.80
	Max	0.40	0.40	0.70	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00	1.00	1.00	1.20	1.50	1.50	1.50



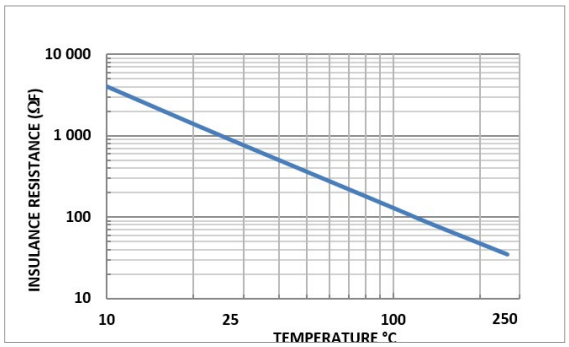
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TYPICAL CHARACTERISTICS

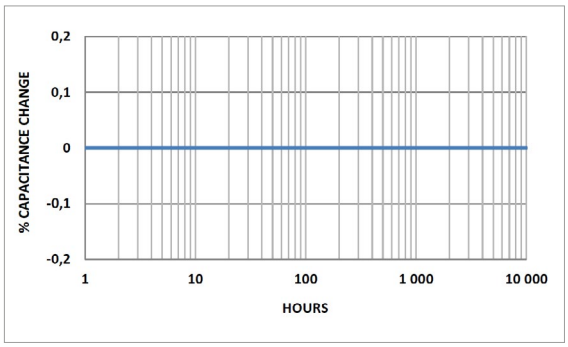
NPO Temperature coefficient of capacitance



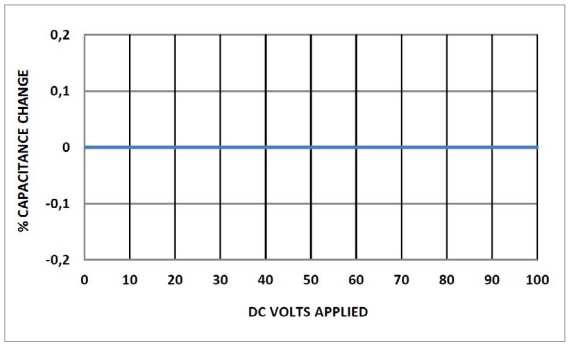
NPO Insulation resistance vs. temperature



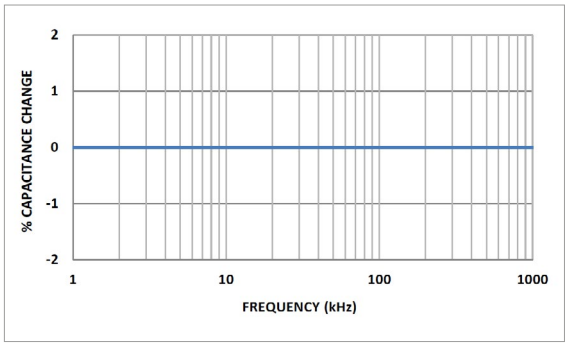
NPO Aging rate



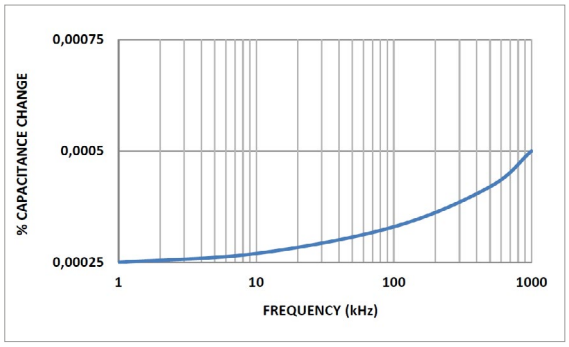
NPO Voltage coefficient of capacitance



NPO Change of Capacitance with Frequency



NPO Dissipation factor vs. frequency



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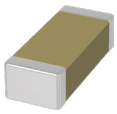
SMD High Temperature Class II

10V-2000V 150°C-250°C

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Typical uses : timing, precision circuitry, filtering for High Temperature environement**







FEATURES

- **Robust design for High Temperature durability**
- **ROHS Tin Termination or Non ROHS SnPb for use up to 200°C**
- **Gold/Silver-Palladium/Solderable Silver for use up to 250°C**
- **Custom voltage, package size, capacitance value on request**
- **168H/125°C Burn-In option for maximum reliability**
- **Extended range for low time usage with reasonable reliability**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 250°C

TEMPERATURE COEFFICIENT :
± 15% with 0Vdc applied on -55°C/125°C
for 125°C/250°C range, refere to chart

DISSIPATION FACTOR :
≤ 2.5% at 1kHz for C ≥ 100pF

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
200°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less
250°C/Un $5x10^3$ MOhm or 50 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0603	0805	1206	1210	1812	2220	0603	0805	1206	1210	1812	2220	0603	0805	1206	1210	1812	2220
	200°c	200°c	200°c	200°c	200°c	200°c	200°c EXTENDED	200°c EXTENDED	200°c EXTENDED	200°c EXTENDED	200°c EXTENDED	200°c EXTENDED	250°c	250°c	250°c	250°c	250°c	250°c
Min	2.2 pF	6.8 pF	10 pF	10 pF	10 pF	33 pF	2.2 pF	6.8 pF	10 pF	10 pF	10 pF	33 pF	2.2 pF	6.8 pF	10 pF	10 pF	10 pF	33 pF
10V	*100 nF*	*1.0 µF*	*2.2 µF*	*10 µF*	*4.7 µF*	*22 µF*	*1.0 µF*	*4.7 µF*	*10 µF*	*22 µF*	*6.8 µF*	*47 µF*	39 nF	100 nF	220 nF	390 nF	820 nF	1.8 µF
25V	39 nF	100 nF	220 nF	390 nF	820 nF	1.8 µF	*100 nF*	*1.0 µF*	*2.2 µF*	*10 µF*	*4.7 µF*	*22 µF*	18 nF	68 nF	150 nF	270 nF	560 nF	1.2 µF
50V	27 nF	82 nF	220 nF	330 nF	820 nF	1.8 µF	39 nF	100 nF	220 nF	390 nF	820 nF	1.8 µF	3.9 nF	15 nF	47 nF	120 nF	270 nF	560 nF
63V	18 nF	68 nF	180 nF	270 nF	560 nF	1.2 µF	39 nF	100 nF	220 nF	390 nF	820 nF	1.8 µF	1.8 nF	8.2 nF	27 nF	68 nF	180 nF	470 nF
100V	6.8 nF	27 nF	82 nF	180 nF	330 nF	820 nF	22 nF	82 nF	180 nF	330 nF	680 nF	1.5 µF	1.2 nF	5.6 nF	15 nF	47 nF	120 nF	330 nF
200V	1.2 nF	5.6 nF	15 nF	47 nF	120 nF	330 nF	5.6 nF	22 nF	68 nF	150 nF	330 nF	680 nF		1.5 nF	4.7 nF	12 nF	33 nF	82 nF
250V	680 pF	2.7 nF	10 nF	27 nF	82 nF	220 nF	2.7 nF	12 nF	39 nF	100 nF	220 nF	560 nF		820 pF	2.7 nF	8.2 nF	22 nF	68 nF
500V			1.5 nF	4.7 nF	12 nF	39 nF	470 pF	2.2 nF	6.8 nF	18 nF	39 nF	100 nF			470 pF	1.5 nF	4.7 nF	15 nF
630V			820 pF	2.7 nF	8.2 nF	22 nF		1.2 nF	3.9 nF	10 nF	27 nF	82 nF					2.7 nF	8.2 nF
1000V					2.7 nF	8.2 nF			1.2 nF	3.3 nF	10 nF	27 nF					1.0 nF	2.7 nF
1500V					1.0 nF	3.3 nF					3.9 nF	12 nF						
2000V						1.2 nF					2.2 nF	5.6 nF						

Max values italic obtained with BME parts

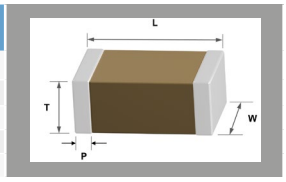
ORDERING INFORMATION

H	0603	Y	101	J	B	W	B	D03
SERIE	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAMETERS
High-Température	0603 0805 1206 1210 1812 2220	Y= X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	Q = 10V J = 16V X = 25V Z = 35V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V O = 1500V H = 2000V	X = Nickel Tin (up to 200°C) H = Dipped SnPb (up to 200°C) S = Dipped SAC (up to 200°C) I = Electrolytic SnPb (up to 200°C) F = Palladium-Silver (up to 250°C) W = Nickel Gold (up to 250°C) Q = Solderable Silver (up to 250°C)	B = Reel V = Bulk	- D03 = Burn-In 168H/125°C BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

DIMENSIONS IN MILLIMETERS

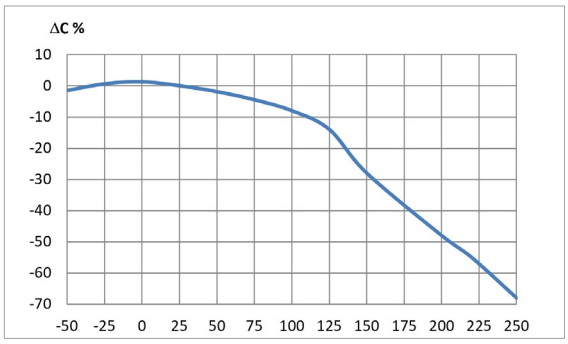
		0603	0805	1206	1210	1812	2220
Length (L)		1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	5.60 ± 0.4
Width (W)		0.80 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	3.20 ± 0.2	5.10 ± 0.4
Thickness max (T)		0.92	1.40	1.70	2.50	3.30	4.00
Termination (P)	Min	0.25	0.25	0.25	0.25	0.25	0.25
	Max	0.40	0.70	0.70	0.80	0.80	0.80



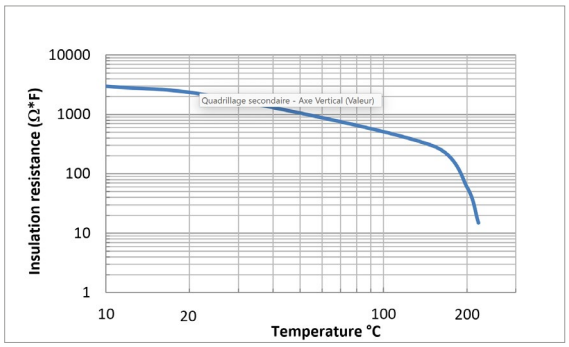
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TYPICAL CHARACTERISTICS

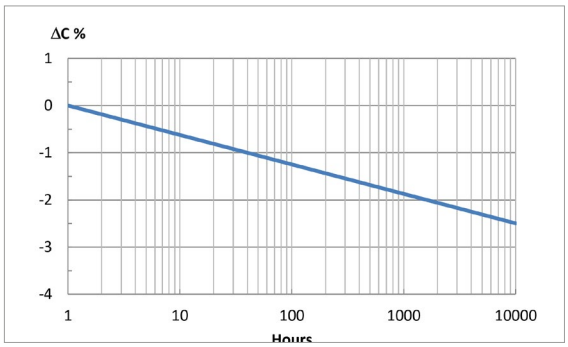
HT Classe II Temperature coefficient of capacitance



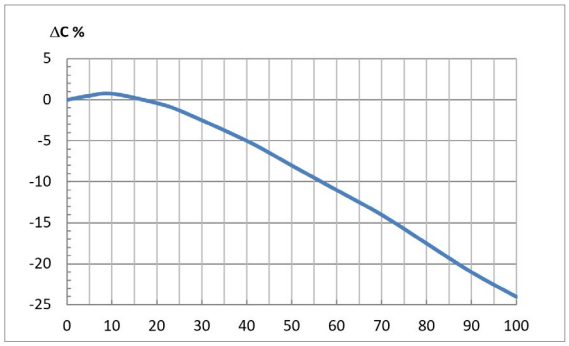
HT Classe II Insulation resistance vs. temperature



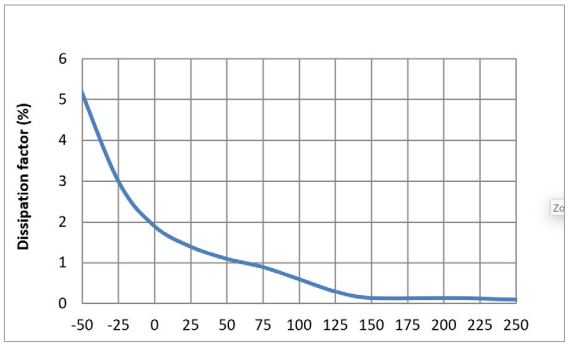
HT Classe II Aging rate



HT Classe II Voltage coefficient of capacitance



HT Classe II DF vs. temperature



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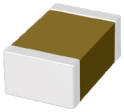
Safety Certified MLCC

X1/Y2 et X2 Class

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

DESCRIPTION

Safety certified capacitors are designed for surge or lightning immunity in modem facsimile and other equipments.
The capacitors of FK series are class X1/Y2 compliant, and the capacitors of FH series are class X2 compliant respectively.
The green type capacitors in FK/FHseries are manufactured by using environmentally friendly materials without lead or cadmium.
The terminations are composed of plated nickel and pure tin to feature the superiority of leaching resistance during soldering.



RoHS compliant

APPLICATIONS

- **Modem**
- **Facsimile**
- **Telephone**
- **Other electronic equipment for lighting or surge protection and isolation**

FEATURES

- **High reliability and stability.**
- **Small size and high capacitance**
- **Safety standard approval by :**

  EN 60384-14 : 2013/A1 : 2016
  IEC60384-14:2013/AMD1:2016
  UL 60384-14(Ed 2.0)UL 62368-1 (2nd Edition)

- **Certificate number :**

  R 50041666 & R 50359148 by TUV.
  E346791(FOWX2/8) by UL, E231248 by UL
  CQC20001247849 by CQC (FK series)
  CQC20001247848 by CQC (FH series)

- **Licenses :**

  ENEC-03020 (FK series)
  ENEC-03021 (FH series)

- **RoHS and HALOGEN compliant**
- **Manufactured by PDC**

ELECTRICAL PARAMETERS

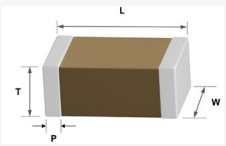
DIELECTRIC	C0G	X7R	
Size	1808, 1812 2211	1808, 1812, 2211, 2220	1206
Rated Voltage	250 Vac		2.5KVdc
Capacitance Range	X1/Y2 Class (Impulse 6KV) : 4pF - 100pF X1/Y2 Class (Impulse 5KV) : 3pF - 720pF X2 Class : 3pF - 1000pF	X1/Y2 Class : 100pF-4700pF X2 Class : 56000pF	1000pF
Capacitance Tolerance	Cap.<10pF : D (±0.5pF) 10pF≤ Cap : F (±1%), G (±2%), J (±5%),K (±10%), M (±20%)	J (±5%) K (±10%) M (±20%)	
DF	Cap.<30pF : Q≥400+20C Cap.≥30pF : Q≥1000	≤2.5%	
Capacitance & DF- Test Condition	Measured at the condition of 30-70% related humidity.		
	For 25°C at ambient temperature	Preconditioning for Class II MLCC : Perform a heat treatment at 150 ±10°C for 1 hour, then leave in ambient condition for 24±2 hours before measurement	
	For : Cap.≤1000pF : 1.0±0.2Vrms, 1.0MHz±10% For : Cap.>1000pF : 1.0±0.2Vrms, 1.0KHz±10%	1.0±0.2Vrms, 1.0KHz±10%, at 25°C ambient temperature	
Insulation Resistance	≥100GΩ or RxC≥1000Ω-F, whichever is smaller	≥10GΩ or RxC≥500Ω-F, whichever is smaller	
Operating Temperature	-55°C to +125°C		
Temperature coefficient	±30ppm/°C	±15%	
Termination	Cu or Ag/Ni/Sn (lead-free termination)		

ORDERING INFORMATION

FK	0805	Y	103	K	L	B	G
SERIES	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	PACKAGING	SPECIAL
FK = Safety X1 & Y2 Series FH = Safety X2 Series	1206 1808 1812 2211 2220	A = C0G Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF	D = ± 0.50pF F = ± 1% G = ±2% J = ± 5% K = ± 10% M = ± 20%	T = 2.5KV L = 5KV 6 = 6KV	B = Reel V = Bulk	G = RoHs Compliant H = High Reliability Q = Anti-Arcing E = Anti Bending Z = Anti-Arcing + Anti-Bending Dxx = Reliability spec Exx = Sorting spec

DIMENSIONS IN MILLIMETERS

		1206	1808	1812	2211	2220
Length (L)		3.30 ±0.40	4.50 +0.6/-0.3	4.50 +0.6/-0.3	5.70 ±0.50	5.70 ±0.50
Width (W)		1.60 ±0.20	2.00 ±0.30	3.20 ±0.40	2.80 ±0.40	5.00 ±0.50
Thickness max (T)		1.35	2.20	2.80	3.10	3.10
Termination (P)	Min	0.25	0.25	0.25	0.30	0.30
	Max	0.75	0.75	0.75	0.90	0.90



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CAPACITANCE RANGE

Class	X1/Y2 (FK series)								X2 (FH series)					
Rated Voltage	250Vac													
Certificated	TUV / UL / CQC (IEC 60384-14)													
Dieletric	COG				X7R				COG		X7R			X7R
Size	1808	1812	2211	2211	1808	1812	2211	2220	1808	1812	1808	1812	2220	1206
Impulse	5KV			6KV	5KV				2.5KV					2.5KV
Code	Cap														
3R0	3.0 pF	R								R					
3R3	3.3 pF	R													
4R0	4.0 pF	R		W	W					R					
4R7	4.7 pF	R		W	W										
5R0	5.0 pF	R		W	W					R					
5R6	5.6 pF	R		W	W										
6R0	6.0 pF	R		W	W					R					
6R8	6.8 pF	R		W	W										
7R0	7.0 pF	R		W	W					R					
8R0	8.0 pF	R		W	W					R					
8R2	8.2 pF	R		W	W										
9R0	9.0 pF	R								R					
100	10 pF	R	P	W	W					R	P				
120	12 pF	R	P	W	W					R	P				
150	15 pF	R	P	W	W					R	P				
180	18 pF	R	P	W	W					R					
220	22 pF	R	P	W	W					R	P				
270	27 pF	R	P	W	W					R	P				
330	33 pF	R	P	W	W					R	P				
390	39 pF	T	P	W	W					T	P				
470	47 pF	T	P	W	W					T	P				
560	56 pF	T	P	W	W					T	P				
680	68 pF	T	P	W	Y					T	P				
820	82 pF	T	P	W	Y					T	P				
101	100 pF	W	P	W	Z	T *		T *		W	P				P
121	120 pF	W	P	Y		T *		T *		W	P				P
131	130 pF	W	P					T *							P
151	150 pF	W	P	Y		T *	T *	T *		W	P	T			P
161	160 pF	W	P	Y		T *			W *			T			P
181	180 pF	W	P	Y		T *	T *	T *	W *	W	P	T			P
221	220 pF	W	W	Y		T *	T *	T *	W *	W	P	T			P
271	270 pF	W	W	Y		W *	T *	→ *	W *	W	R	T	T		P
301	300 pF		W									T	T		P
331	330 pF		W	Y		W *	T *	T *	W *	W	R	T	T		P
391	390 pF		W	Y		W *	T *	T *	W *	W	R	T	T		P
471	470 pF		W	Y		W *	T *	W *	W *	W	T	T	T		P
561	560 pF			Y		W *	T *	W *	W *	W	W	T	T		P
681	680 pF			Y		W *	W *	W *	W *	W	W	T	T		P
721	720 pF								W *	W			T		P
821	820 pF					W *	W *	W *	W *	W	Y	T	T		P
102	1.0 nF					W *	Y *	Y *	W *	W	Y	W	T		P
122	1.2 nF							Y *	Y *			W	T		
152	1.5 nF							Y *	Y *			W	W		
182	1.8 nF							Y *	Y *			W	W		
222	2.2 nF							Y *	Y *			W	Y		
272	2.7 nF							Z *	Y *				Y		
332	3.3 nF								Y *				Y		
392	3.9 nF								Y *				Y		
472	4.7 nF								Y *				Y		
562	5.6 nF												Y		
682	6.8 nF														
822	8.2 nF														
103	10 nF													Y	
123	12 nF													Y	
153	15 nF													Y	
183	18 nF													Y	
223	22 nF													Z	
273	27 nF													Z *	
333	33 nF													Z *	
393	39 nF													Z *	
473	47 nF													Z *	
563	56 nF													Z *	

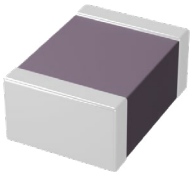
Code	Thickness (mm)
P	1.25±0.10
R	1.40±0.15
T	1.60±0.20
W	2.00±0.20
Y	2.50±0.30
Z	2.80±0.30

* : Surface coating only

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APPLICATIONS

- **RF and microwave communication (30MHz - 30GHz) for satellite communication, base station, wireless devices, radar**



RoHS compliant

FEATURES

- **Ultra stable dieletric material Q>2000**
- **Best in class ESR**
- **High conductivity precious metal electrodes**
- **Marking option**
- **Standard and custom kits**
- **High rel version according to ESCC3009**
- **High temperature version up to 200°C (H prefix)**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS:
at + 25°C unless otherwise specified

OPERATING TEMPERATURE:
- 55°C. + 125°C

TEMPERATURE COEFFICIENT:
± 30ppm

DISSIPATION FACTOR :
≤ 5.10^{-4} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 5.10^{-4} at 1Vrms and 1KHz for values > 1000pF

INSULATION RESISTANCE (IR):
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST:
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

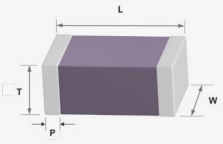
	0402	0504	0505	0603	0709	0805	1206	1210
MIN	0.1pF	0.1pF	0.1pF	0.1pF	0.1pF	0.1pF	0.5pF	0.5pF
25V	82pF	820pF	1.0nF	560pF	1.5nF	1.5nF	4.7nF	5.6nF
50V	56pF	820pF	1.0nF	560pF	1.5nF	1.5nF	4.7nF	5.6nF
100V	33pF	820pF	1.0nF	560pF	1.5nF	1.5nF	4.7nF	5.6nF
150V	33pF	820pF	1.0nF	150pF	1.5nF	1.5nF	4.7nF	5.6nF
200V	33pF	220pF	270pF	150pF	1.5nF	1.5nF	4.7nF	5.6nF
250V	33pF	220pF	270pF	150pF	1.5nF	1.5nF	4.7nF	5.6nF
500V				68pF	470pF	470pF	680pF	1.2nF
1000V							150pF	270pF

ORDERING INFORMATION

1206	Q	560	F	E	X	-	B	-
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	MARKING	PACKAGING	SPECIAL
0402 0504 0505 0603 0709 0805 1206 1210	Q = High Q	Expressed in picofarads (pF). The first two digits are significant. the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10%	X = 25V A = 50V B = 100V N = 150V C = 200V P = 250V E = 500V G = 1000V	X = Nickel Tin C = Copper Tin (Non magnetic) F = Silver Palladium (Non magnetic) W = Nickel Gold Flash G = Nickel Gold Thick H = Dipped SnPb I = Electrolytic SnPb	- = Unmarked M = Marked	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

DIMENSIONS IN MILLIMETERS

		0402	0505	0603	0709	0805	1206	1210
LENGTH (L)		1.00 ± 0.1	1.40 ± 0.1	1.60 ± 0.1	1.80 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2
WIDTH (W)		0.50 ± 0.1	1.40 ± 0.1	0.80 ± 0.1	2.30 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2
THICKNESS MAX (T)		0.60	1.45	0.90	2.90	1.40	1.70	1.70
TERMINATION (P)	MIN	0.10	0.10	0.25	0.25	0.25	0.25	0.25
	MAX	0.40	0.40	0.40	0.50	0.70	0.70	0.80



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STANDARD SIZE : 0402 TO 1210

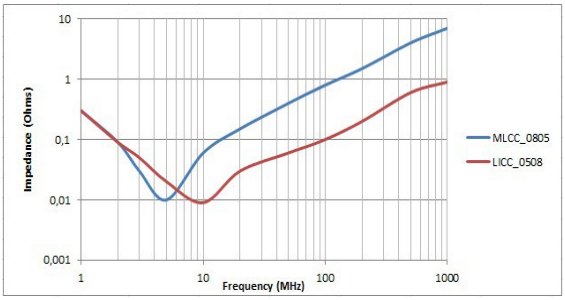
SIZE			0402					0504				0505				0603				0709				0805				1206					1210				
CODE	CAP	TOL	25V	50V	100V	200V	250V	50V	105V	200V	250V	50V	105V	200V	250V	50V	100V	250V	500V	50V	100V	250V	500V	50V	100V	250V	500V	50V	100V	250V	500V	1000V	50V	100V	250V	500V	1000V
0R1	0.1pF	A,B,C,D					•								•				•																		
0R2	0.2pF	A,B,C,D					•								•				•																		
0R3	0.3pF	A,B,C,D					•								•				•								•										
0R4	0.4pF	A,B,C,D					•								•				•																		
0R5	0.5pF	A,B,C,D					•								•				•								•										
0R6	0.6pF	A,B,C,D					•								•				•																		
0R7	0.7pF	A,B,C,D					•								•				•								•										
0R8	0.8pF	A,B,C,D					•								•				•																		
0R9	0.9pF	A,B,C,D					•								•				•																		
1R0	1.0pF	A,B,C,D					•								•				•				•				•										•
1R1	1.1pF	A,B,C,D					•																														
1R2	1.2pF	A,B,C,D					•								•				•				•				•										•
1R3	1.3pF	A,B,C,D					•																														
1R4	1.4pF	A,B,C,D																																			
1R5	1.5pF	A,B,C,D					•								•				•				•				•										•
1R6	1.6pF	A,B,C,D																																			
1R7	1.7pF	A,B,C,D																																			
1R8	1.8pF	A,B,C,D					•								•				•				•				•										•
1R9	1.9pF	A,B,C,D																																			
2R0	2.0pF	A,B,C,D					•								•				•				•				•										•
2R1	2.1pF	A,B,C,D																																			
2R2	2.2pF	A,B,C,D					•								•				•				•				•										•
2R4	2.4pF	A,B,C,D					•								•				•				•				•										•
2R7	2.7pF	A,B,C,D					•								•				•				•				•										•
3R0	3.0pF	A,B,C,D					•								•				•				•				•										•
3R3	3.3pF	A,B,C,D					•								•				•				•				•										•
3R6	3.6pF	A,B,C,D																																			
3R9	3.9pF	A,B,C,D					•								•				•				•				•										•
4R3	4.3pF	A,B,C,D																																			
4R7	4.7pF	A,B,C,D					•								•				•				•				•										•
5R1	5.1pF	B,C,D																																			
5R6	5.6pF	B,C,D					•								•				•				•				•										•
6R2	6.2pF	B,C,D																																			
6R8	6.8pF	B,C,D					•								•				•				•				•										•
7R5	7.5pF	B,C,D																																			
8R2	8.2pF	B,C,D					•								•				•				•				•										•
9R1	9.1pF	B,C,D																																			
100	10pF	F,G,J,K					•								•				•				•				•										•
110	11pF	F,G,J,K																																			
120	12pF	F,G,J,K					•								•				•				•				•										•
150	15pF	F,G,J,K					•								•				•				•				•										•
180	18pF	F,G,J,K					•								•				•				•				•										•
200	20pF	F,G,J,K					•								•				•				•				•										•
220	22pF	F,G,J,K																																			
240	24pF	F,G,J,K					•								•				•				•				•										•
270	27pF	F,G,J,K					•								•				•				•				•										•
300	30pF	F,G,J,K					•								•				•				•				•										•
330	33pF	F,G,J,K					•								•				•				•				•										•
360	36pF	F,G,J,K																																			
390	39pF	F,G,J,K		•											•				•				•				•										•
430	43pF	F,G,J,K																																			
470	47pF	F,G,J,K		•											•				•				•				•										•
560	56pF	F,G,J,K													•				•				•				•										•
620	62pF	F,G,J,K																																			
680	68pF	F,G,J,K	•												•				•				•				•										•
750	75pF	F,G,J,K																																			
820	82pF	F,G,J,K	•												•			•					•				•										•
910	91pF	F,G,J,K																																			
101	100pF	F,G,J,K													•			•					•				•										•
111	110pF	F,G,J,K																																			
121	120pF	F,G,J,K													•			•					•				•										•
131	130pF	F,G,J,K																																			
151	150pF	F,G,J,K													•			•					•				•										•
161	160pF	F,G,J,K																																			
181	180pF	F,G,J,K													•		•						•				•										•
201	200pF	F,G,J,K																																			
221	220pF	F,G,J,K													•		•						•				•										•
241	240pF	F,G,J,K																																			
271	270pF	F,G,J,K													•		•						•				•										•
301	300pF	F,G,J,K																																			
331	330pF	F,G,J,K											•				•						•				•									•	
361	360pF	F,G,J,K																																			
391	390pF	F,G,J,K											•				•						•				•									•	
431	430pF	F,G,J,K																																			
471	470pF	F,G,J,K											•				•						•				•									•	
511	510pF	F,G,J,K																																			
561	560pF	F,G,J,K											•				•							•			•									•	
621	620pF	F,G,J,K																																			
681	680pF	F,G,J,K											•											•			•									•	
750	750pF	F,G,J,K																																			
821	820pF	F,G,J,K											•											•			•									•	
911	910pF	F,G,J,K																																			
102	1.0nF	F,G,J,K											•											•			•									•	
122	1.2nF	F,G,J,K																																			
152	1.5nF	F,G,J,K																									•									•	
182	1.8nF	F,G,J,K																																			
222	2.2nF	F,G,J,K																									•									•	
272	2.7nF	F,G,J,K																																			
332	3.3nF	F,G,J,K																									•									•	
392	3.9nF	F,G,J,K																																			
472	4.7nF	F,G,J,K																									•									•	
562	5.6nF	F,G,J,K																																			

• : Preferred P/N, can be ordered in kit on request

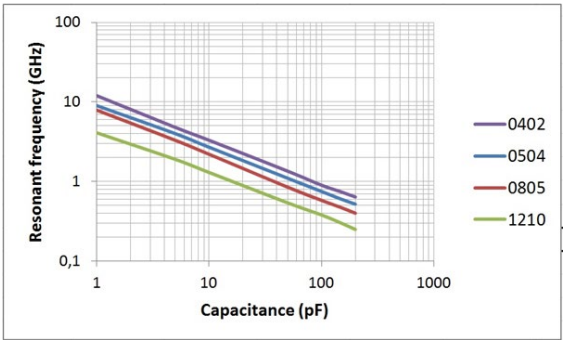
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TYPICAL CHARACTERISTICS

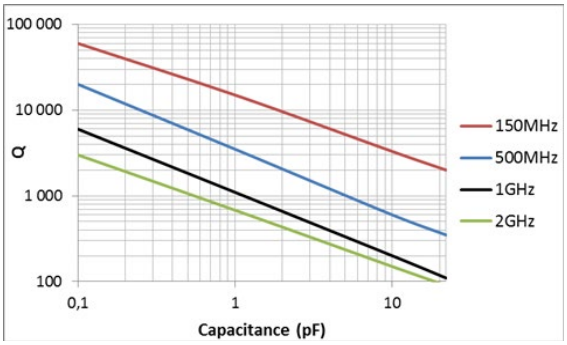
Temperature coefficient of capacitance



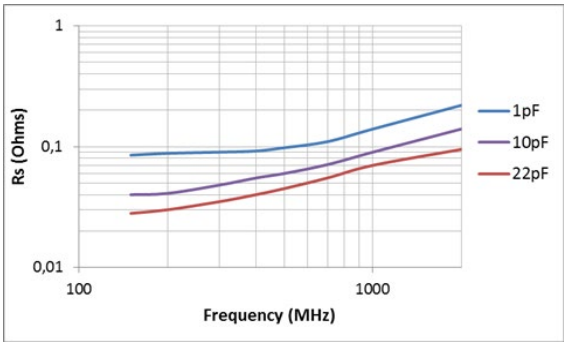
Series resonant frequency



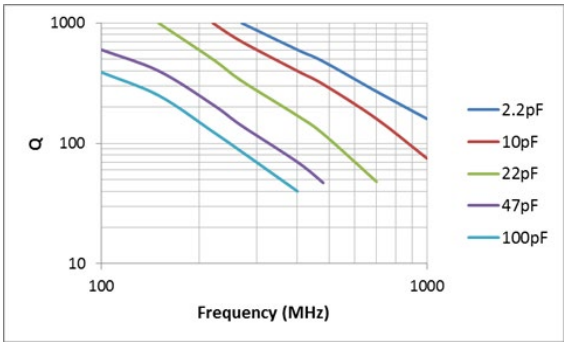
Q / Frequency - 0402, 200V



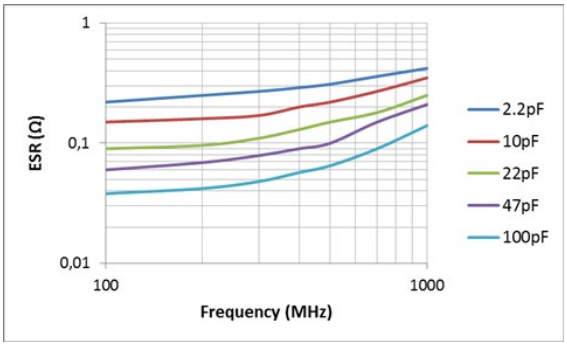
ESR / Frequency - 0402, 200V



Q / Frequency - 0805, 1206, 200V



ESR / Frequency - 0805, 1206, 200V



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MLCC High Q RF Power

50V-10000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Lasers, CATV, RF Power Amplifiers**
- **Mixers, RF Instruments**



RoHS compliant

FEATURE

- **Wide range of termination magnetic and non magnetic**
- **Microstrips and wires, axial, radial**
- **Equivalent to concurrent design**
- **Very low ESL/ESR. High current**
- **Optional marking**
- **High temperature version up to 200°C (H prefix)**
- **High rel version according to ESCC3009**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS:
at + 25°C unless otherwise specified

OPERATING TEMPERATURE:
- 55°C, + 125°C

TEMPERATURE COEFFICIENT:
± 30ppm

DISSIPATION FACTOR:
≤ 5.10^{-4} at 1Vrms at 1Vrms 1MHz for values ≤ 1000pF
≤ 5.10^{-4} at 1Vrms at 1Vrms 1KHz for values > 1000pF

INSULATION RESISTANCE (IR):
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST:
2.5Un U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000 for 5s with 50mA max charging current

QUICK REFERENCE DATA

	1111	2225	2525	4040	7274
MIN	0.1pF	0.5pF	0.5pF	0.5pF	1pF
50V	10nF	12nF	18nF	20nF	20nF
150V	10nF	12nF	18nF	20nF	20nF
200V	10nF	12nF	18nF	20nF	20nF
250V	1.5nF	12nF	18nF	20nF	20nF
300V	1.5nF	12nF	18nF	20nF	20nF
500V	1.2nF	12nF	18nF	20nF	20nF
630V	680pF	3.0nF	4.7nF	18nF	20nF
1000V	330pF	2.4nF	3.3nF	18nF	20nF
1500V	150pF	1.5nF	1.8nF	5.1nF	20nF
2000V		220pF	820pF	5.1nF	20nF
2500V		330pF	820pF	2.2nF	12nF
3600V		150pF	360pF	680pF	10nF
5000V				390pF	1nF
7200V				220pF	430pF
8000V				180pF	360pF
10000V					200pF

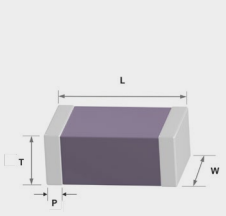
ORDERING INFORMATION

2325	Q	560	F	E	X	-	B	-
SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	MARKING	PACKAGING	SPECIAL
1111 2225 2525 4040 7274	Q = High Q	Expressed in picofarads (pF).The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5%	A = 50V B = 100V C = 200V P = 250V D = 300V E = 500V F = 630V G = 1000V O = 1500V H = 2000V T = 2500V M = 3600V K = 4000V L = 5000V S = 7200V 8 = 8000V 10 = 10000V	X = Nickel Tin C = Copper Tin (Non magnetic) F = Silver Palladium (Non magnetic) W = Nickel Gold Flash G = Nickel Gold Thick H = Dipped SnPb I = Electrolytic SnPb M = Microstrip A = Axial Ribbon R = Radial Ribbon U = Axial Wire V = Radial Wire CM = Microstrip (Non magnetic) CA = Axial Ribbon (Non magnetic) CR = Axial Ribbon (Non magnetic) CU = Axial Wire (Non magnetic) CV = Radial Wire (Non magnetic)	- = Un-marked M = Marked	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

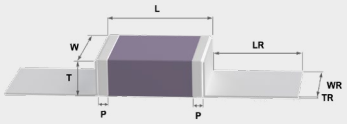
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DIMENSIONS IN MILIMETERS

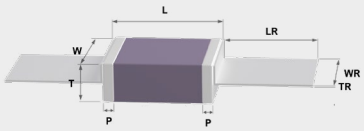
DESIGNATION		TERMINATION	1111	2225	2525	4040	7274
LENGTH (L)		X, C, F, W,G, H, I	2.80 ± 0.2	5.85 ± 0.4	6.35 ± 0.4	9.7 ± 0.6	18.9 ± 0.8
LENGTH (L)		M, CM, A, AR, R, CR	3.20 ± 0.5	6.30 ± 0.6	6.80 ± 0.6	10.1 ± 0.8	18.9 ± 1.0
LENGTH (L)		U, UC, CU, CV	3.20 ± 0.5	6.30 ± 0.6	6.80 ± 0.6	10.1 ± 0.8	
WIDTH (W)		ALL	2.80 ± 0.4	6.35 ± 0.5	6.35 ± 0.5	9.7 ± 0.8	19.1 ± 1.0
THICKNESS MAX (T)		ALL - M, CM	2.60	4.30	4.30	4.30	4.30
THICKNESS MAX (T)		M, CM	3.10	4.30	4.30	4.30	
TERMINATION (P)	MIN	ALL	0.20	0.25	0.25	0.80	0.80
	MAX	ALL	0.50	0.80	0.80	1.50	1.50
LENGTH RIBBON MIN (LR)		M, CM, A, AR, R, CR	7.00	13.00	13.00	20.00	20.00
WIDTH RIBBON (WR)		M, CM, A, AR, R, CR	2.40 ± 0.2	6.10 ± 0.2	6.10 ± 0.2	8.90 ± 0.2	16.7 ± 0.4
THICKNESS RIBBON (TR)		M, CM, A, AR, R, CR	0.10	0.10	0.10	0.25	0.25
LENGTH WIRE MIN (LW)		U, UC, CU, CV	13.00	13.00	13.00	25.00	
DIAMETER WIRE (DW)		U, UC, CU, CV	0.41	0.81	0.81	0.81	



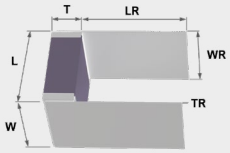
SMD : X, C, F, W, G, H, I



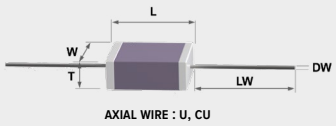
MICROSTRIP : M, CM



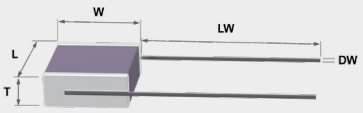
AXIAL MICROSTRIP : A, CA



RADIAL MICROSTRIP : R, CR



AXIAL WIRE : U, CU



RADIAL WIRE : V, CV

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TYPICAL VALUES : 1111 TO 7274

SIZE			1111								2325							2525							4040							7274							
CODE	CAP	TOL	50	150	200	300	500	630	1000	1500	300	500	630	1000	1500	2500	3600	300	500	630	1000	1500	2500	3600	500	1000	2000	2500	3600	5000	7200	8000	500	1000	2000	2500	3600	5000	7200	8000	10000
0R1	0.1pF	A,B,C,D																																						
0R2	0.2pF	A,B,C,D																																						
0R3	0.3pF	A,B,C,D																																						
0R4	0.4pF	A,B,C,D																																						
0R5	0.5pF	A,B,C,D								•							•							•																
0R6	0.6pF	A,B,C,D								•							•							•																
0R7	0.7pF	A,B,C,D								•							•							•																
0R8	0.8pF	A,B,C,D								•							•							•																
0R9	0.9pF	A,B,C,D								•							•							•																
1R0	1.0pF	A,B,C,D								•							•							•																
1R1	1.1pF	A,B,C,D								•																														
1R2	1.2pF	A,B,C,D								•																														
1R3	1.3pF	A,B,C,D								•																														
1R4	1.4pF	A,B,C,D																																						
1R5	1.5pF	A,B,C,D								•							•							•																
1R6	1.6pF	A,B,C,D																																						
1R7	1.7pF	A,B,C,D																																						
1R8	1.8pF	A,B,C,D								•							•							•																
1R9	1.9pF	A,B,C,D																																						
2R0	2.0pF	A,B,C,D								•																														
2R1	2.1pF	A,B,C,D																																						
2R2	2.2pF	A,B,C,D								•							•							•																
2R4	2.4pF	A,B,C,D								•																														
2R7	2.7pF	A,B,C,D								•																														
3R0	3.0pF	A,B,C,D								•																														
3R3	3.3pF	A,B,C,D								•																														
3R6	3.6pF	A,B,C,D								•																														
3R9	3.9pF	A,B,C,D								•																														
4R3	4.3pF	A,B,C,D								•																														
4R7	4.7pF	A,B,C,D								•																														
5R1	5.1pF	B,C,D								•																														
5R6	5.6pF	B,C,D								•																														
6R2	6.2pF	B,C,D								•																														
6R8	6.8pF	B,C,D								•																														
7R5	7.5pF	B,C,D								•																														
8R2	8.2pF	B,C,D								•																														
9R1	9.1pF	B,C,D								•																														
100	10pF	F,G,J,K								•																														
110	11pF	F,G,J,K																																						
120	12pF	F,G,J,K								•																														
150	15pF	F,G,J,K								•																														
180	18pF	F,G,J,K								•																														
200	20pF	F,G,J,K								•																														
220	22pF	F,G,J,K																																						
240	24pF	F,G,J,K																																						
270	27pF	F,G,J,K								•																														
300	30pF	F,G,J,K																																						
330	33pF	F,G,J,K								•																														
360	36pF	F,G,J,K																																						
390	39pF	F,G,J,K								•																														
430	43pF	F,G,J,K																																						
470	47pF	F,G,J,K								•																														
510	51pF	F,G,J,K																																						
560	56pF	F,G,J,K								•																														
620	62pF	F,G,J,K																																						
680	68pF	F,G,J,K								•																														
750	75pF	F,G,J,K																																						
820	82pF	F,G,J,K								•																														
910	91pF	F,G,J,K																																						
101	100pF	F,G,J,K								•																														
111	110pF	F,G,J,K																																						
121	120pF	F,G,J,K								•																														
131	130pF	F,G,J,K																																						
151	150pF	F,G,J,K								•																														
161	160pF	F,G,J,K																																						
181	180pF	F,G,J,K							•																														
201	200pF	F,G,J,K																																						
221	220pF	F,G,J,K							•																														
241	240pF	F,G,J,K																																						
271	270pF	F,G,J,K							•																														
301	300pF	F,G,J,K																																						
331	330pF	F,G,J,K							•																														
361	360pF	F,G,J,K																																						
391	390pF	F,G,J,K						•																																
431	430pF	F,G,J,K																																						
471	470pF	F,G,J,K						•																																
511	510pF	F,G,J,K																																						
561	560pF	F,G,J,K						•																																
621	620pF	F,G,J,K																																						
681	680pF	F,G,J,K						•																																
750	750pF	F,G,J,K																																						
821	820pF	F,G,J,K					•																																
911	910pF	F,G,J,K																																						
102	1.0nF	F,G,J,K					•																																
111	1.1nF	F,G,J,K					•																																
122	1.2nF	F,G,J,K																																						
152	1.5nF	F,G,J,K				•																																	
182	1.8nF	F,G,J,K			•																																		
222	2.2nF	F,G,J,K																																						
242	2.4nF	F,G,J,K			•																																		
272	2.7nF	F,G,J,K																																						
302	3.0nF	F,G,J,K			•																																		
332	3.3nF	F,G,J,K																																						
392	3.9nF	F,G,J,K			•																																		
472	4.7nF	F,G,J,K																																						
512	5.1nF	F,G,J,K			•																																		
562	5.6nF	F,G,J,K																																						
622	6.2nF	F,G,J,K			•																																		
682	6.8nF	F,G,J,K																																						
752	7.5nF	F,G,J,K			•																																		
822	8.2nF	F,G,J,K																																						
912	9.1nF	F,G,J,K			•																																		
103	10nF	F,G,J,K																																						
113	11nF	F,G,J,K																																						
123	12nF	F,G,J,K																																						
133	13nF	F,G,J,K																																						
153	15nF	F,G,J,K																																						
163	16nF	F,G,J,K																																						
183	18nF	F,G,J,K																																						
203	20nF	F,G,J,K																																						

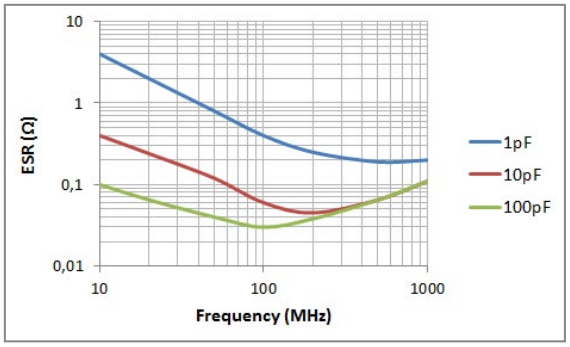
• : Preferred P/N, can be ordered in kit on request

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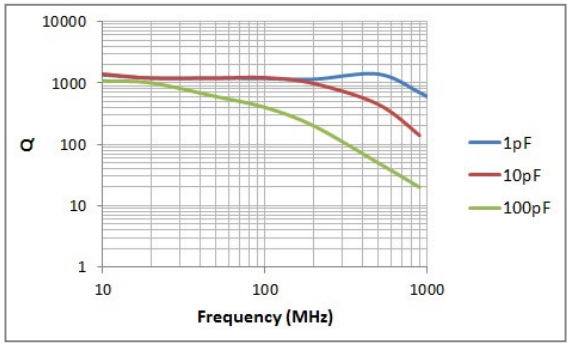
TYPICAL CHARACTERISTICS : 0505 TO 1111

0505

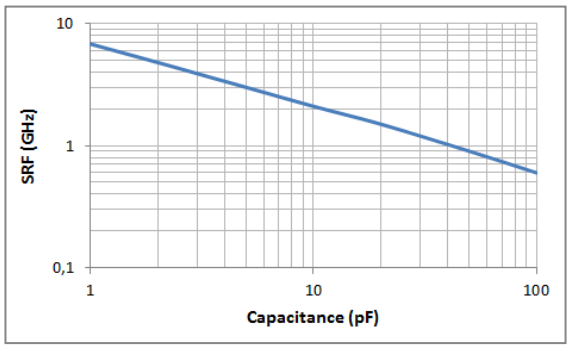
ESR = f(F_{MHz})



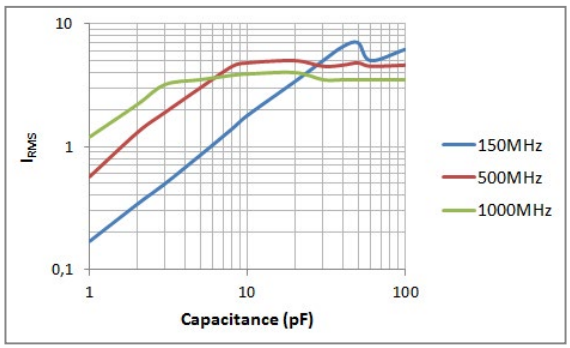
Q Value = f(F_{MHz})



Resonant Frequency = f(CAP_{pF})

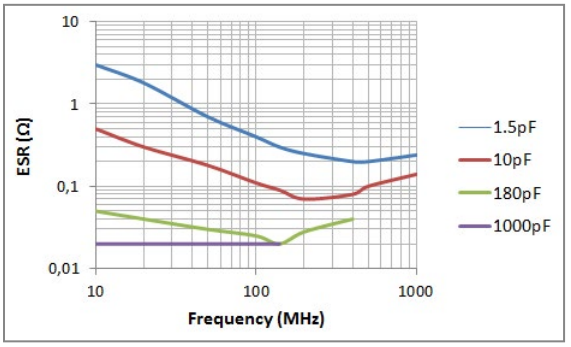


I_{RMS} = f(CAP_{pF})

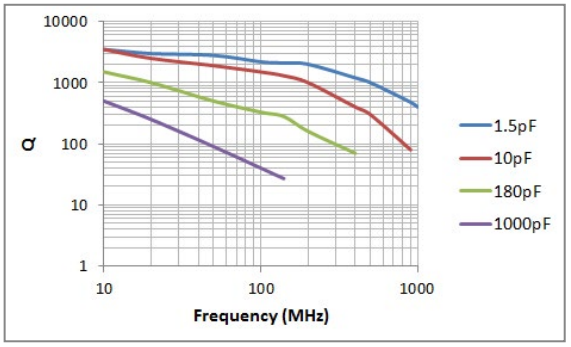


1111

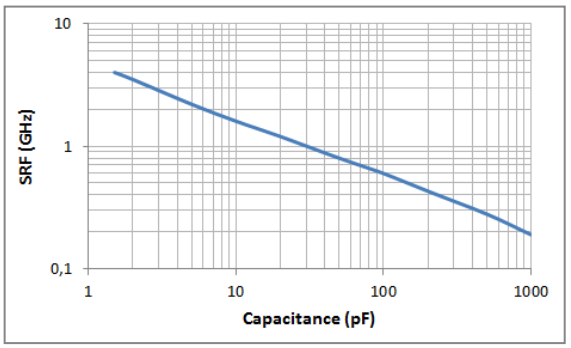
ESR = f(F_{MHz})



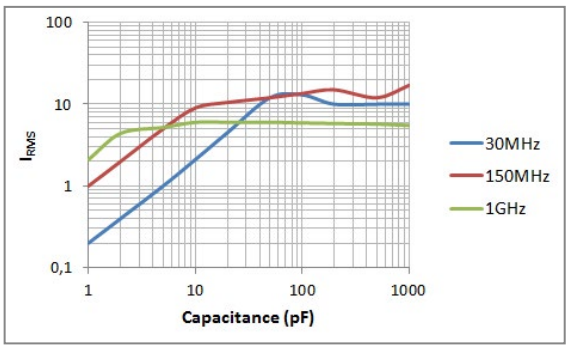
Q Value = f(F_{MHz})



Resonant Frequency = f(CAP_{pF})



I_{RMS} = f(CAP_{pF})

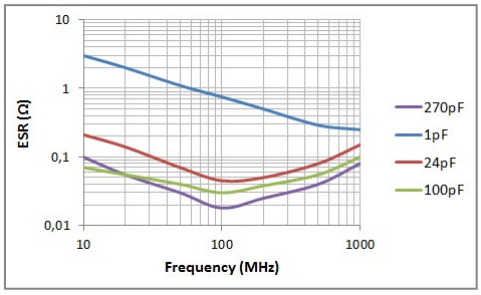


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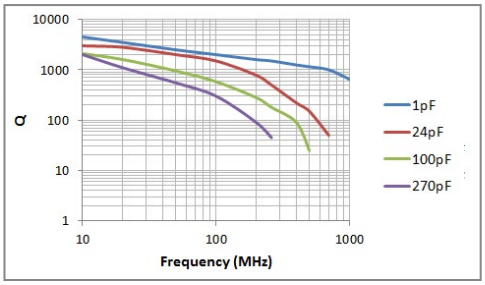
TYPICAL CHARACTERISTICS : 2325 TO 4040

2325

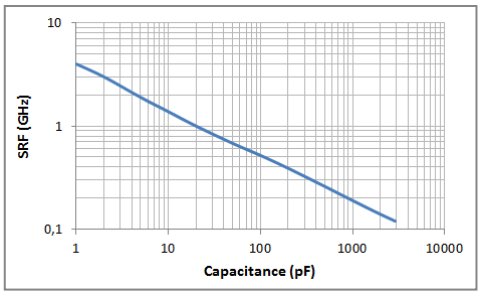
ESR = f(F_{MHz})



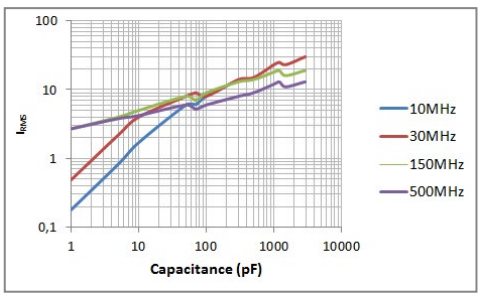
Q Value = f(F_{MHz})



Resonant Frequency = f(CAP_{pF})

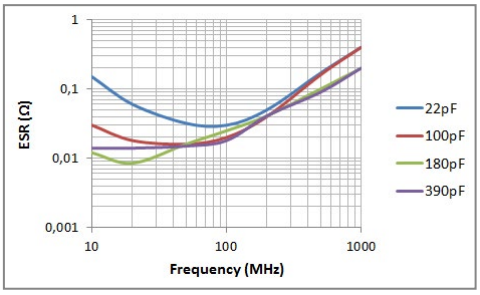


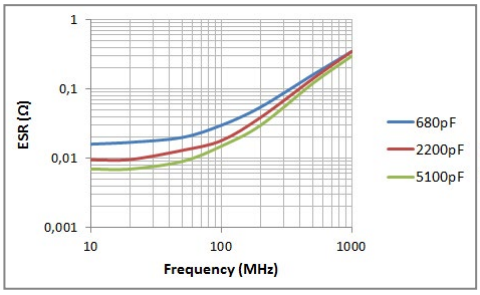
I_{RMS} = f(CAP_{pF})



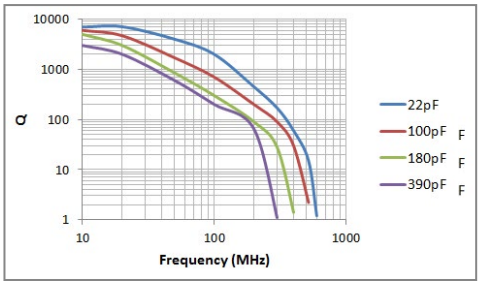
4040

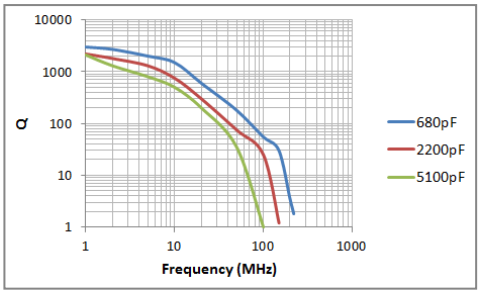
ESR = f(F_{MHz})



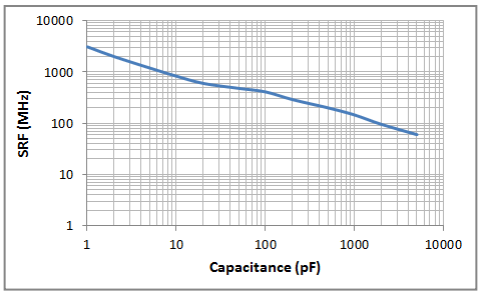


Q Value = f(F_{MHz})

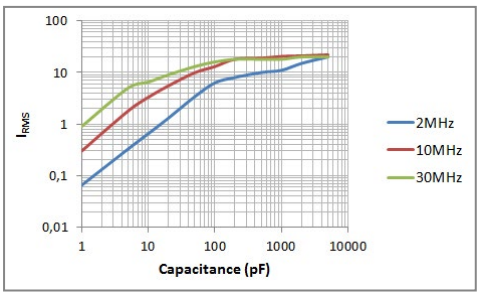




Resonant Frequency = f(CAP_{pF})



I_{RMS} = f(CAP_{pF})



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DESIGN KITS

SRT-Microcérmique is widening its High Q offer and propose design Kits with

KITS

P/N	DES	RANGE	VALUES	TOL
0603QXK-0R1-020	0603 High Q 250V Nisn Termination (15pcs per value)	1.0pF -> 2.0pF	0.1pF 0.2pF 0.3pF 0.4pF 0.5pF 0.6pF 0.7pF 0.8pF 0.9pF 1.0pF 1.1pF 1.2pF 1.5pF 1.6pF, 1.8pF, 2.0pF	±0.1pF (B) ±0.25pF (C)
0603QXK-010-100		1.0pF -> 10pF	1.0pF 1.2pF 1.5pF 1.8PF 2.0pF 2.2pF 2.4pF 2.7pF 3.0pF 3.3pF 3.9pF 4.7pF 5.6pF 6.8pF 8.2pF 10pF	±0.25pF (C) ±0.50pF (D) ±5% (K)
0603QXK-100-101		10pF -> 100pF	10pF 12pF 15pF 18pF 20pF 22pF 24pF 27pF 30pF 33pF 39pF 47pF 56pF 68pF 82pF 100pF	±5% (K)
0709QXK-010-100	0709 High Q 500V Nisn Termination (15pcs per value)	1.0pF -> 10pF	1.0pF 1.2pF 1.5pF 1.8PF 2.0pF 2.2pF 2.4pF 2.7pF 3.0pF 3.3pF 3.9pF 4.7pF 5.6pF 6.8pF 8.2pF 10pF	±0.25pF (C) ±0.50pF (D) ±5% (K)
0703QXK-100-101		10pF -> 100pF	10pF 12pF 15pF 18pF 20pF 22pF 24pF 27pF 30pF 33pF 39pF 47pF 56pF 68pF 82pF 100pF	±5% (K)

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RF DECOUPLING X7R Vertical Electrodes Capacitor

16V-100V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Filtering, decoupling in Microelectronic applications**



RoHS compliant

FEATURES

- **Low Inductance Chip for Decoupling Integrated**
- **Circuit Able to work until 3GHz**
- **Wire Bondable Capacitor with Gold Termination**
- **Attachment Conductive Adhesive or AuSn Solder**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS:
at + 25°C unless otherwise specified

OPERATING TEMPERATURE:
- 55°C, + 125°C

TEMPERATURE COEFFICIENT:
± 15% with 0Vdc applied

DISSIPATION FACTOR:
≤ 2.5%

INSULATION RESISTANCE (IR):
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST:
Performed per method 301 MIL STD 202
Applied test voltages
≤ 100Vdc-rated : 250% of rated voltage

QUICK REFERENCE DATA

	0204	0303	0306	0404	0508
Min	10pF	10pF	10pF	10pF	100pF
16V	10nF	15nF	33nF	22nF	47nF
25V	5.6nF	15nF	33nF	22nF	47nF
50V	2.2nF	10nF	22nF	15nF	22nF
100V	1nF	6.8nF	8.2nF	8.2nF	22nF

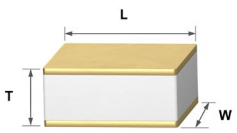
ORDERING INFORMATION

SREV	0303	Y	103	K	X	W	W	-
STYLE	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL
SREV	0204 0303 0306 0404 0508	Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	K = ± 10% M = ± 20%	J = 16V X = 25V A = 50V B = 100V	W = Gold	W = Waffle Pack	- Dxx = Reliability spec Exx = Sorting spec

DIMENSIONS IN MILLIMETERS

DESIGNATION		0204	0303	0306	0404	0508
Length (L)		0.51 ± 0.05	0.8 ± 0.05	0.8 ± 0.05	1.02 ± 0.1	1.25±0.1
Width (W)		1.02 ± 0.1	0.8 ± 0.05	1.50 ± 0.1	1.02 ± 0.1	2.1±0.1
THICKNESS (T)	Min	0.45	0.60	0.60	0.65	0.65
	Max	0.15	0.15	0.15	0.15	0.15

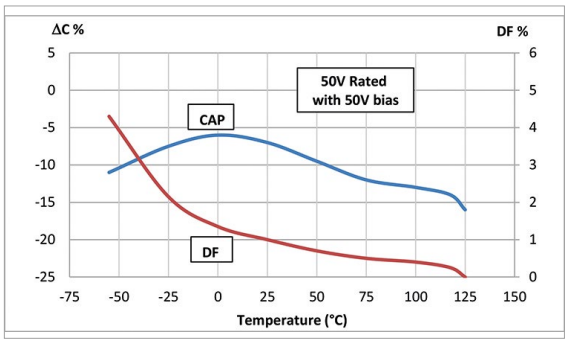
Gold Termination > 2.5µm.



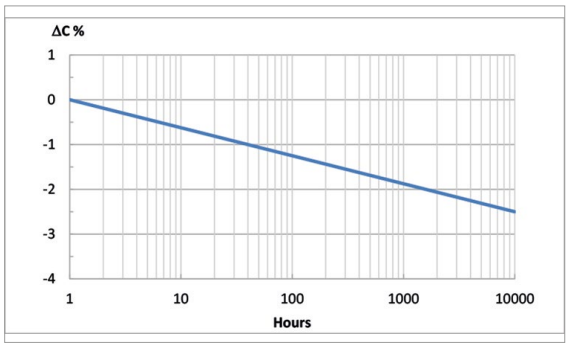
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TYPICAL CHARACTERISTICS

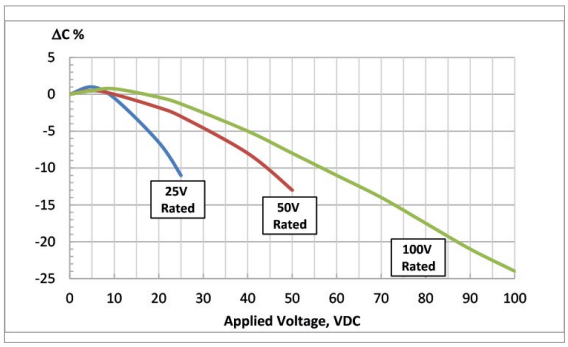
X7R Capacitance and dissipation factor vs temperature



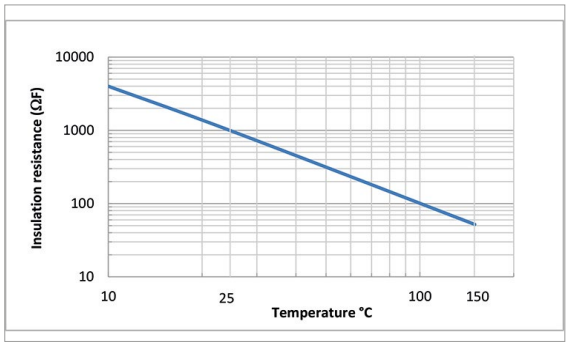
X7R Aging



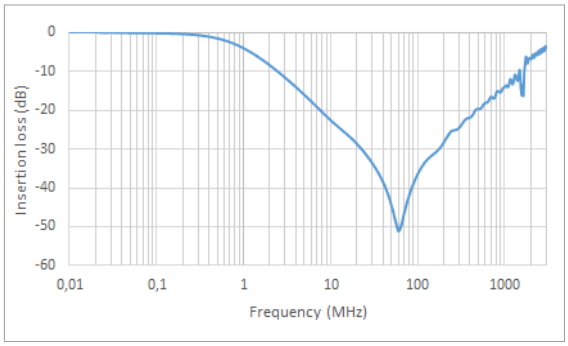
X7R Voltage coefficient of capacitance



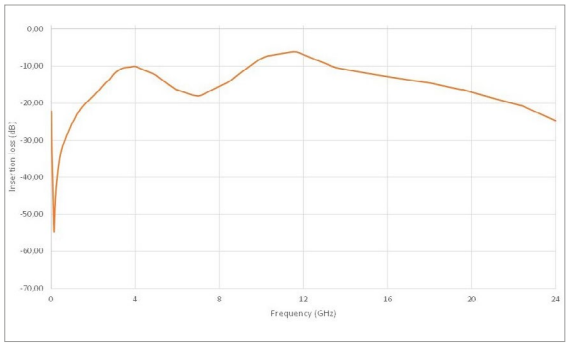
X7R Insulation resistance vs temperature



Impedance vs frequency



Impedance vs high frequency



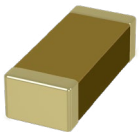
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SMD Gold Termination

16V - 1000V

APPLICATIONS

- **Microelectronic applications**
- **Wirebonding/glueing**



FEATURES

- **Max 0.2µm Flash Au for Glueing (W termination)**
- **Min 2.5µm Thick Au for Wire Bonding/Glueing (G termination)**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NP0 : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V | U+250V 200<U≤500 | 1.5U 500<U<1000 | 1.2U U≥1000
for 5s with 50mA max charging current

ORDERING INFORMATION

0603	A	103	G	B	G	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0201 0306 0402 0504 0508 0603 0612 0805 1206 1210 1808 1812 1825 2220 2225	A = NPO P = N2T Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	R = 6.3V Q = 10V J = 16V X = 25V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V	W = Gold Flash G = Gold Thick	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us.

QUICK REFERENCE DATA

	0201		0306			0402			0504			0508			0603			0612			0805		
	NP0	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
Min	0.1 pF	100 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	0.3 pF	2.2 pF	0.1 pF	1.0 pF	6.8 pF	0.1 pF	1.0 pF	6.8 pF
6.3V	*1.0 nF*	*33 nF*	1.2 nF	5.6 nF	*470 nF*	*2.2 nF*	1.2 nF	*1.0 µF*	1.5 nF	6.8 nF	39 nF	3.9 nF	15 nF	*2.2 µF*	*27 nF*	5.6 nF	*4.7 µF*	8.2 nF	33 nF	*4.7 µF*	*47 nF*	15 nF	*10 µF*
10V	*1.0 nF*	*33 nF*	1.2 nF	5.6 nF	*470 nF*	*2.2 nF*	1.2 nF	*470 nF*	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	*2.2 µF*	*27 nF*	5.6 nF	*4.7 µF*	8.2 nF	33 nF	*2.2 µF*	*47 nF*	15 nF	*10 µF*
16V	*1.0 nF*	*33 nF*	1.2 nF	5.6 nF	*470 nF*	*2.2 nF*	1.2 nF	*220 nF*	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	*2.2 µF*	*27 nF*	5.6 nF	*2.2 µF*	8.2 nF	33 nF	*1.0 µF*	*47 nF*	15 nF	*10 µF*
25V	*1.0 nF*	*10 nF*	1.2 nF	5.6 nF	33 nF	*2.2 nF*	1.2 nF	*220 nF*	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	*2.2 µF*	*27 nF*	5.6 nF	*1.0 µF*	8.2 nF	33 nF	*470 nF*	*47 nF*	15 nF	*4.7 µF*
50V	*220 pF*	*1.5 nF*	1.2 nF	4.7 nF	33 nF	*1.5 nF*	1.2 nF	*100 nF*	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	*10 nF*	5.6 nF	*1.0 µF*	8.2 nF	33 nF	220 nF	*47 nF*	15 nF	*4.7 µF*
63V	*100 pF*		1.2 nF	4.7 nF	33 nF	*1.0 nF*	1.2 nF	*12 nF*	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	*10 nF*	5.6 nF	*100 nF*	8.2 nF	33 nF	220 nF	*33 nF*	15 nF	*1.0 µF*
100V	*100 pF*		1.2 nF	4.7 nF	33 nF	*1.0 nF*	1.2 nF	*10 nF*	1.5 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	*10 nF*	5.6 nF	*100 nF*	8.2 nF	33 nF	220 nF	*33 nF*	15 nF	*1.0 µF*
200V			1.2 nF	4.7 nF	33 nF	*330 pF*	1.0 nF	6.8 nF	1.2 nF	5.6 nF	39 nF	3.9 nF	15 nF	100 nF	*2.2 nF*	5.6 nF	39 nF	8.2 nF	33 nF	220 nF	*10 nF*	15 nF	*470 nF*
250V			1.2 nF	4.7 nF	27 nF	*330 pF*	1.0 nF	5.6 nF	1.2 nF	5.6 nF	33 nF	3.9 nF	15 nF	82 nF	*2.2 nF*	5.6 nF	27 nF	8.2 nF	33 nF	180 nF	*10 nF*	15 nF	82 nF
500V			820 pF	2.2 nF	5.6 nF	180 pF	470 pF	1.2 nF	1.0 nF	2.7 nF	6.8 nF	3.3 nF	10 nF	39 nF	1.0 nF	2.7 nF	6.8 nF	8.2 nF	22 nF	82 nF	3.3 nF	10 nF	*33 nF*

Max values italic obtained with BME parts

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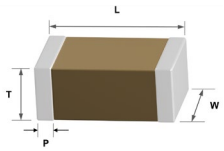
QUICK REFERENCE DATA

	1206			1210			1808			1812			1825			2220			2225		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
Min	0.4 pF	4.7 pF	10 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	1.0 pF	10 pF	33 pF	1.0 pF	10 pF	33 pF
6.3V	*220 nF*	39 nF	*22 µF*	*220 nF*	68 nF	*47 µF*	22 nF	82 nF	470 nF	220 nF	120 nF	*22 µF*	*100 nF*	270 nF	*10 µF*	470 nF	330 nF	*47 µF*	100 nF	390 nF	*10 µF*
10V	*220 nF*	39 nF	*22 µF*	*220 nF*	68 nF	*47 µF*	22 nF	82 nF	470 nF	220 nF	120 nF	*22 µF*	*100 nF*	270 nF	*10 µF*	470 nF	330 nF	*47 µF*	100 nF	390 nF	*10 µF*
16V	*220 nF*	39 nF	*22 µF*	*220 nF*	68 nF	*22 µF*	22 nF	82 nF	470 nF	220 nF	120 nF	*22 µF*	*100 nF*	270 nF	*10 µF*	470 nF	330 nF	*47 µF*	100 nF	390 nF	*10 µF*
25V	*220 nF*	39 nF	*10 µF*	*220 nF*	68 nF	*22 µF*	22 nF	82 nF	470 nF	220 nF	120 nF	*22 µF*	*100 nF*	270 nF	*10 µF*	470 nF	330 nF	*47 µF*	100 nF	390 nF	*10 µF*
50V	*220 nF*	39 nF	*10 µF*	*150 nF*	68 nF	*22 µF*	22 nF	82 nF	470 nF	220 nF	120 nF	*6.8 µF*	*100 nF*	270 nF	*10 µF*	470 nF	330 nF	*47 µF*	100 nF	390 nF	*10 µF*
63V	*100 nF*	39 nF	*2.2 µF*	*100 nF*	68 nF	*10 µF*	22 nF	82 nF	470 nF	150 nF	120 nF	*4.7 µF*	*100 nF*	270 nF	*10 µF*	330 nF	330 nF	*22 µF*	100 nF	390 nF	*10 µF*
100V	*100 nF*	39 nF	*2.2 µF*	*100 nF*	68 nF	*10 µF*	22 nF	82 nF	470 nF	150 nF	120 nF	*4.7 µF*	*100 nF*	270 nF	*10 µF*	330 nF	330 nF	*22 µF*	100 nF	390 nF	*10 µF*
200V	*22 nF*	39 nF	220 nF	*47 nF*	68 nF	*1.0 µF*	22 nF	82 nF	470 nF	100 nF	120 nF	*1.0 µF*	82 nF	270 nF	*2.2 µF*	150 nF	330 nF	*2.2 µF*	100 nF	390 nF	*2.7 µF*
250V	*22 nF*	39 nF	220 nF	*47 nF*	68 nF	*680 nF*	22 nF	82 nF	470 nF	100 nF	120 nF	*1.0 µF*	82 nF	270 nF	1.8 µF	150 nF	330 nF	*2.2 µF*	100 nF	390 nF	*2.7 µF*
500V	8.2 nF	27 nF	82 nF	15 nF	47 nF	180 nF	18 nF	56 nF	220 nF	33 nF	100 nF	*470 nF*	68 nF	220 nF	820 nF	68 nF	220 nF	*1.0 µF*	82 nF	270 nF	1.0 µF

Max values italic obtained with BME parts

DIMENSIONS IN MILLIMETERS

		0201	0306	0402	0504	0508	0603	0612	0805	1206	1210	1808	1812	1825	2220	2225
Length (L)		0.60 ± 0.03	0.80 ± 0.1	1.00 ± 0.1	1.25 ± 0.1	1.30 ± 0.2	1.60 ± 0.2	1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.50 ± 0.2	4.50 ± 0.2	4.50 ± 0.3	5.60 ± 0.4	5.60 ± 0.4
Width (W)		0.30 ± 0.03	1.60 ± 0.1	0.50 ± 0.1	1.00 ± 0.1	2.00 ± 0.2	0.80 ± 0.2	3.20 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	6.35 ± 0.3	5.10 ± 0.4	6.35 ± 0.4
Thickness max (T)		0.35	0.92	0.60	1.00	2.00	0.92	3.00	1.40	1.70	2.50	2.10	3.30	3.60	4.10	4.10
Termination (P)	Min	0.10	0.10	0.10	0.10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	Max	0.20	0.30	0.30	0.30	0.40	0.40	0.70	0.70	0.70	0.80	0.80	0.80	0.80	0.80	1.00



EMI MCF Filter

Up to 6A

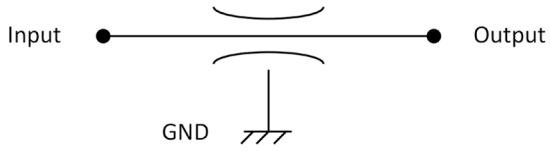
APPLICATIONS

Our FeedThru Capacitors provide better EMI performance than SMD components due to lower inductance, which results in broader frequency response for :

- **Low speed signal lines**
- **Medium current power lines**
- **RF Immunity filter and amplifier gain filter**



EQUIVALENT CIRCUIT



ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NP0 : ± 30ppm
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0 : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0603		0805		1206		1806		1812		2220	
	NP0	X7R	NP0	X7R	NP0	X7R	NP0	X7R	NP0	X7R	NP0	X7R
MIN	1pF	47pF	10pF	100pF	22pF	220pF	22pF	220pF	100pF	1nF	100pF	1nF
50V	270pF	6.8nF	1.5nF	47nF	3.3nF	150nF	5.6nF	220nF	18nF	680nF	33nF	1.5µF
100V	270pF	5.6nF	1.5nF	47nF	3.3nF	100nF	4.7nF	150nF	15nF	470nF	33nF	1µF
200V	220pF	2.7nF	1nF	22nF	2.7nF	56nF	3.9nF	68nF	12nF	270nF	27nF	620nF
500V	47pF	750pF	390pF	3.9nF	1nF	10nF	1.5nF	18nF	6.8nF	100nF	15nF	270nF
1000V			120pF	1.8nF	390pF	5.6nF	560pF	6.8nF	3.3nF	47nF	10nF	150nF

		ORDERING	0603	0805	1206	1806	1812	2220
CURRENT	NP0	-	1A	2A	2A	2A	3A	6A
	X7R	1	500mA	500mA	500mA	500mA	3A	6A
		2	1A	2A	2A	2A	/	/

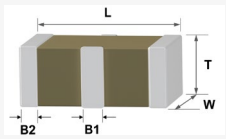
ORDERING INFORMATION

	0805	Y	103	K	A	X	-	B	-
SERIES	SIZE	DIELEC-TRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	CURRENT	PACKAGING	SPECIAL PARAMETERS
MCF	0603 0805 1206 1806 1812 2220	A = NP0 Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	A = 50V B = 100V C = 200V E = 500V G = 1000V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) I = Plated SnPb W = Nickel Gold	- 1 2	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec T21 = Special B1 parameters

For other sizes contact us

DIMENSIONS (In millimeters)

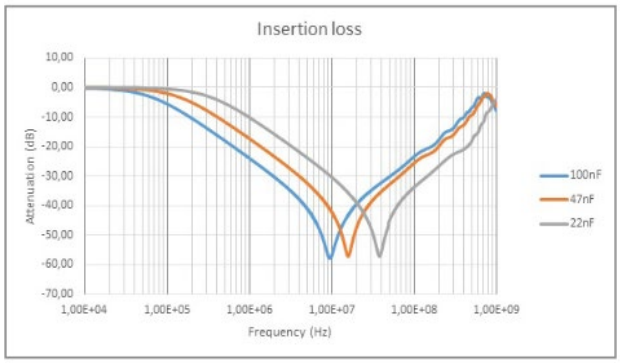
		0603	0805	1206	1806	1812	2220
Length (L)		1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	4.50 ± 0.3	4.50 ± 0.3	5.70 ± 0.4
Width (W)		0.80 ± 0.1	1.25 ± 0.2	1.60 ± 0.2	1.60 ± 0.3	3.20 ± 0.2	5.00 ± 0.4
Thickness (T)	Max	0.9	1.25	1.60	1.60	3.20	4.00
Termination	B1 Min	0.30	0.50	0.40	0.70	1.10	1.10
	B1 Max	0.60	0.80	0.8	1.10	1.50	1.50
	B2 Min	0.15	0.15	0.15	0.15	0.15	0.15
	B2 Max	0.30	0.60	0.60	0.70	0.70	0.70

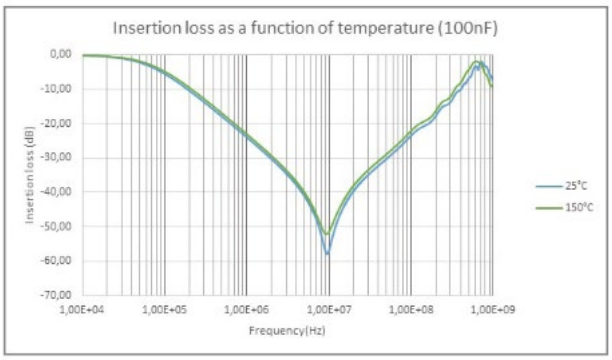


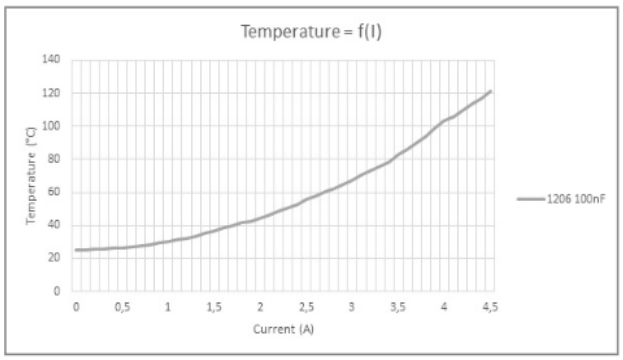
For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W) of the chip.

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TYPICAL CHARACTERISTICS

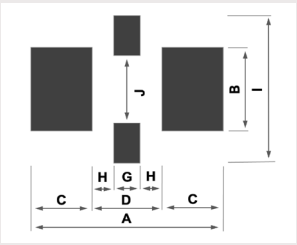






TYPICAL FILTER FOOTPRINT REFLOW SOLDERING

SIZE	FOOTPRINT DIMENSIONS IN mm							
	A	B	C	D	G	H	I	J
0603	2.30	1.00	0.55	1.20	0.60	0.30	1.40	0.60
0805	2.90	1.45	0.70	1.50	0.80	0.35	1.85	1.05
1206	4.10	1.80	0.95	2.20	1.00	0.60	2.20	1.40
1806	5.50	1.80	1.15	3.20	1.50	0.85	2.20	1.40
1812	5.50	3.40	1.15	3.20	1.50	0.85	3.90	3.00
2220	6.80	5.40	1.25	4.30	2.00	1.15	7.20	5.00



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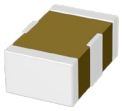
EMI M2F Filter

NPO/X7R

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

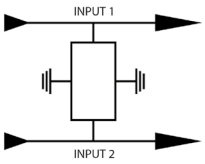
- **Flexible Quadripole Capacitor for filtering and decoupling**



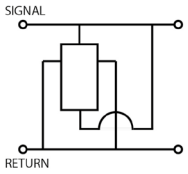
RoHS compliant

EQUIVALENT CIRCUIT

- **Filtering**



- **Decoupling**



ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NP0 : ± 30ppm
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0 : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V I U+250V 200<U≤500 for 5s with 50mA max charging current

QUICK REFERENCE DATA

	0603		0805		1206		1812		2220	
	NP0	X7R	NP0	X7R	NP0	X7R	NP0	X7R	NP0	X7R
MIN	1pF	47pF	1pF	100pF	10pF	220pF	100pF	470pF	100pF	470pF
50V	120pF	8.2nF	1.2nF	47nF	2.2nF	220nF	10nF	470nF	22nF	1µF
100V	120pF	6.2nF	1nF	39nF	1.8nF	100nF	6.8nF	330nF	18nF	750nF
200V	100pF	3.3nF	1nF	27nF	1.5nF	47nF	6.8nF	220nF	18nF	560nF
500V	27pF	680pF	220pF	7.5nF	470pF	12nF	3.3nF	100nF	10nF	270nF

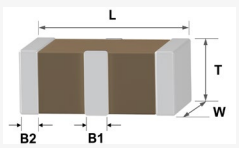
ORDERING INFORMATION

M2F	0805	Y	103	K	A	X	B	
SERIES	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAMETERS
M2F	0603 0805 1206 1806 1812 2220	A = NP0 Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	J = ± 5% K = ± 10% M = ± 20%	A = 50V B = 100V C = 200V E = 500V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) I = Plated SnPb W = Nickel Gold	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

For other sizes contact us

DIMENSIONS (In millimeters)

		0603	0805	1206	1812	2220
Length (L)		1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	4.50 ± 0.3	5.70 ± 0.4
Width (W)		0.80 ± 0.1	1.25 ± 0.2	1.60 ± 0.2	3.20 ± 0.2	5.00 ± 0.4
Thickness (T)	Max	0.9	1.25	1.60	3.20	4.00
Termination	B1 Min	0.30	0.50	0.70	1.10	1.10
	B1 Max	0.60	0.80	1.10	1.50	1.50
	B2 Min	0.15	0.15	0.15	0.15	0.15
	B2 Max	0.30	0.60	0.60	0.70	0.70

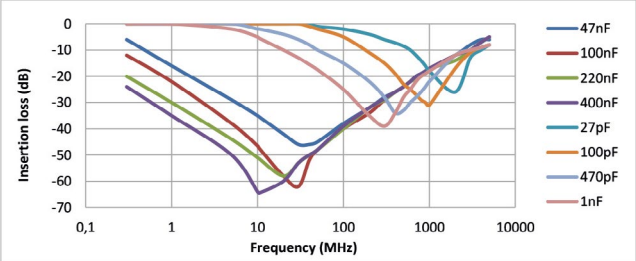


For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W) of the chip.

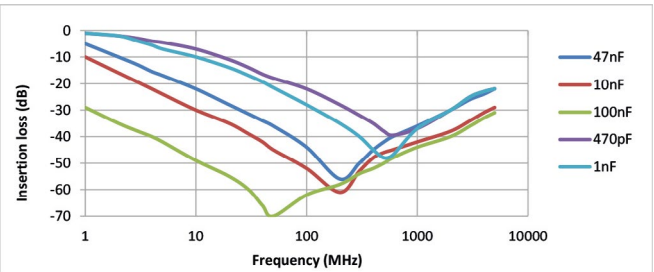
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TYPICAL CHARACTERISTICS

Filtering

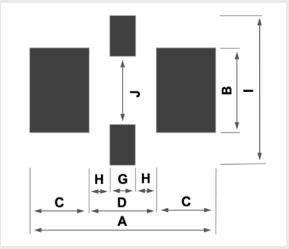


Decoupling



TYPICAL FILTER FOOTPRINT REFLOW SOLDERING

SIZE	FOOTPRINT DIMENSIONS IN mm							
	A	B	C	D	G	H	I	J
0603	2.30	1.00	0.55	1.20	0.60	0.30	1.40	0.60
0805	2.90	1.45	0.70	1.50	0.80	0.35	1.85	1.05
1206	4.10	1.80	0.95	2.20	1.00	0.60	2.20	1.40
1806	5.50	1.80	1.15	3.20	1.50	0.85	2.20	1.40
1812	5.50	3.40	1.15	3.20	1.50	0.85	3.90	3.00
2220	6.80	5.40	1.25	4.30	2.00	1.15	7.20	5.00



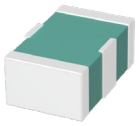
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EMI MPF Filter

Up to 20A

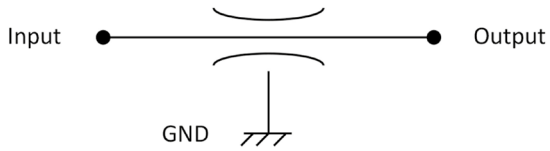
APPLICATIONS

Noise suppression in power lines for High Current Applications



RoHS compliant

EQUIVALENT CIRCUIT



ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NP0 : ± 30ppm
X7R : ± 15% with 0Vdc applied

AGING RATE :
X7R : 2% per decade

Dissipation Factor :
NP0 : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V I U+250V 200<U≤500 for 5s with 50mA max charging current

QUICK REFERENCE DATA (Max capacitance)

	1812		2220	
	NP0	X7R	NP0	X7R
MAX CURRENT	10A	2A-10A	20A	10A-20A
MIN	100pF	1nF	100pF	1nF
50V	10nF	220nF	22nF	470nF
100V	10nF	150nF	22nF	330 nF
200V	10nF	68nF	22nF	150nF
500V	5.6nF	47nF	10nF	68nF

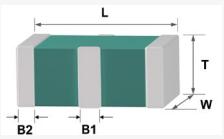
ORDERING INFORMATION

MPF	0805	Y	103	K	A	X	B	
SERIES	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL PARAMETERS
MPF	1812 2220	A = NPO Y = X7R	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	K = ± 10% M = ± 20%	A = 50V B = 100V C = 200V E = 500V	X = Nickel Tin F = Palladium-Silver P = Polymer Tin (Flex) C = Copper Tin (Non magnetic) I = Plated SnPb W = Nickel Gold	B = Reel V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

For other sizes contact us

DIMENSIONS (In millimeters)

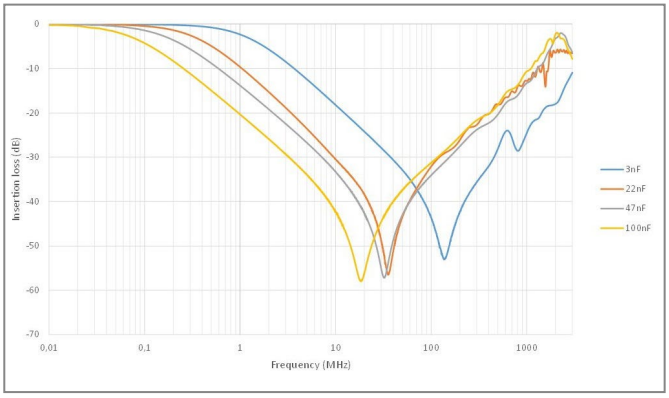
		1812	2220
Length (L)		4.50 ± 0.3	5.70 ± 0.4
Width (W)		3.20 ± 0.2	5.00 ± 0.4
Thickness (T)	MAX	3.20	4.00
Termination	B1 Min	1.10	1.10
	B1 Max	1.50	1.50
	B2 Min	0.15	0.15
	B2 Max	0.70	0.70

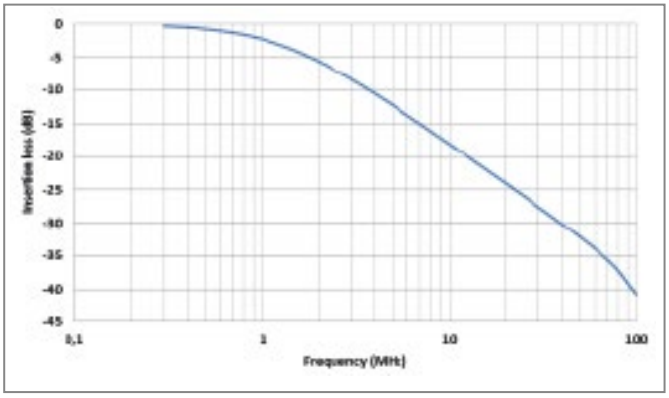


For P termination (Polymer type) add 0.10mm to Length (L) and 0.05 to Width (W) of the chip.

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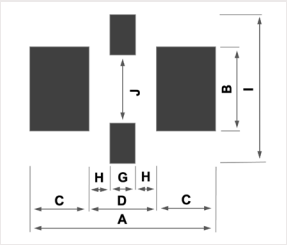
TYPICAL CHARACTERISTICS





TYPICAL FILTER FOOTPRINT REFLOW SOLDERING

SIZE	FOOTPRINT DIMENSIONS IN mm							
	A	B	C	D	G	H	I	J
1812	5.50	3.40	1.15	3.20	1.50	0.85	3.90	3.00
2220	6.80	5.40	1.25	4.30	2.00	1.15	7.20	5.00



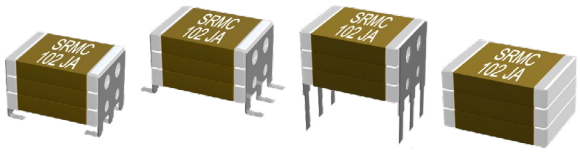
STACKED CAPACITOR High Power

NPO N2T X7R 16-1000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Switch Mode Power Capacitor**
- **for Input / Output Filtering**



RoHS compliant

FEATURES

- **High reliability, 100% 48 hours burn-in**
- **Low ESR and ESL design**
- **High frequency switch**
- **Custom designs with any size, voltage, capcity, leads...**
- **Marking**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5U U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 2U U<500V I 1.5U 500≤U<1000 I 1.2U U=1000

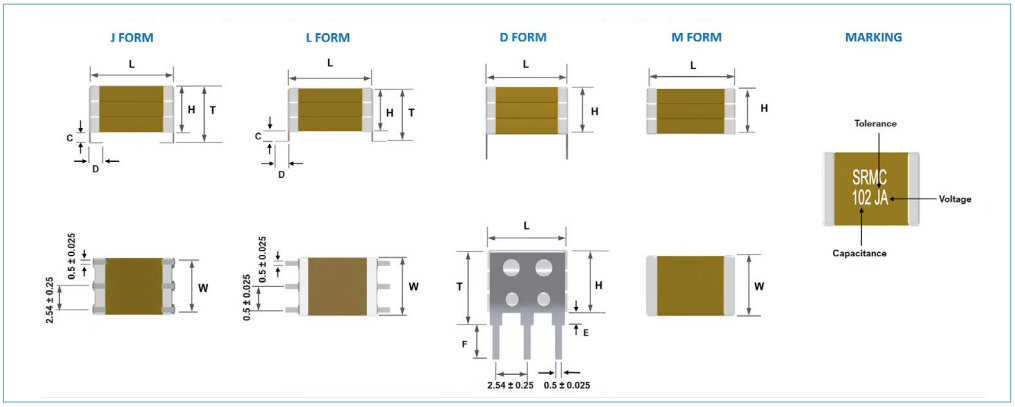
ORDERING INFORMATION

SRMC	-	2225	Y	102	J	A	-	L	100	-	B	-
SERIE	HT	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	LEAD FRAME	FORM	HEIGHT (H)	COATING	PACKAGING	SPECIAL
SRMC	- H = High Temp	1210 1812 1825 2220 2225 2825 3033 3640 4040 40100 5550 6080 6560 6660 8060 80150	A = NP0 P = N2T X = BX Y=X7R BY=2C1	Expressed in picofarads (pF) The first two digits are significant, the third digit gives the number of noughts Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	J = 16 V X = 25 V A = 50 V U = 63 V B = 100 V C = 200 V P = 250 V E = 500 V F = 630 V G = 1 KV	- = Tin Plated N = SnPb Plated	J L D M U = 4 leads	020 030 040 050 060 070 080 090 100 110 120 130 140 160 180	- I = Conformal Coating H = Epoxy Coating	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For J, L, M form, total height (T) is obtained by adding lead height (C/E) to specified chip height (H) in 1/10mm
For other sizes, voltage, tolerance contact us

DIMENSIONS J/L/D/M (In millimeters)

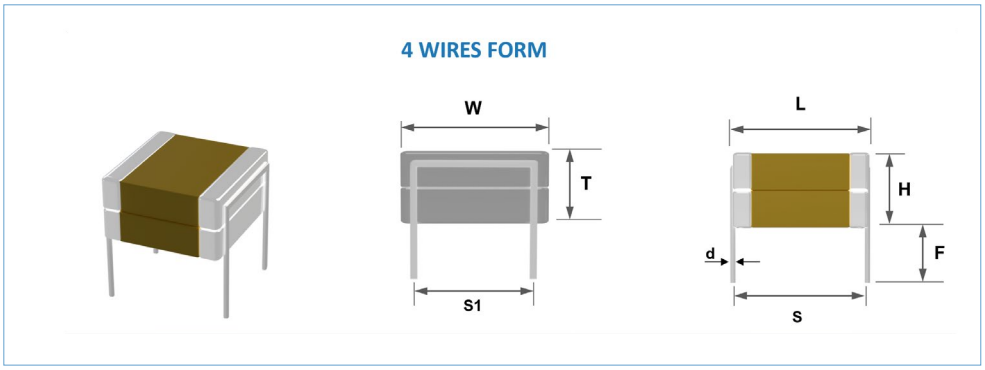
	1210	1812	1825	2220	2225	2825	3033	3640	4040	40100	5550	6080	6560 6660	8060	80150
Lenght (L)	3.80 ± 0.3	5.10 ± 0.4	5.10 ± 0.4	6.20 ± 0.4	6.20 ± 0.4	7.70 ± 0.4	8.20 ± 0.4	9.75 ± 0.5	10.80 ± 0.8	10.80 ± 1.0	14.60 ± 1.0	15.80 ± 1.0	17.40 ± 1.0	20.90 ± 1.0	20.90 ± 1.0
Width (W)	2.50 ± 0.3	3.20 ± 0.4	6.35 ± 0.4	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.5	10.20 ± 0.8	25.40 ± 1.0	12.70 ± 1.0	20.30 ± 1.0	15.20 ± 1.0	15.20 ± 1.0	38.10 ± 1.0
Nb of Leads	2	2	3	3	3	3	3	4	4	10	5	8	6	6	15
Min Height (T)	2.8	2.8	3.0	3.0	3.1	3.4	3.5	3.6	4.0	4.0	4.3	4.4	4.5	4.5	4.5
Max Height (T)	7.2	9.6	16.2	16.2	16.2	16.9	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
Lead Height (C)	1.3 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3
lead Lenght (D)	1.3 ± 0.3	1.4 ± 0.3	1.6 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3
Lead Height (E)	1.0 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3
Lead Lenght (F)	4.0 ± 1.0	4.0 ± 1.0	4.5 ± 1.0	5.0 ± 1.0	5.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0



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DIMENSIONS 4 WIRES (In millimeters)

	3033	3640	5550	5550	5550	6080	6080	6660	8060	40100	80150
Lenght (L)	9.20 ± 0.5	11.15 ± 0.5	16.00 ± 0.5	16.00 ± 0.5	16.00 ± 0.5	17.20 ± 0.5	17.20 ± 0.5	18.80 ± 0.5	22.30 ± 0.5	12.20 ± 0.5	22.70 ± 0.5
Width (W)	8.40 ± 0.5	10.20 ± 0.5	12.70 ± 0.5	12.70 ± 0.5	12.70 ± 0.5	20.30 ± 0.5	20.30 ± 0.5	15.20 ± 0.5	15.20 ± 0.5	25.40 ± 0.5	38.10 ± 0.5
Lead Space (S)	8.40	10.15	15.00	15.00	15.00	16.20	16.20	17.80	21.30	11.20	21.50
Lead Width (S1)	5.08	7.62	7.62	10.16	15.24	10.16	15.24	10.16	10.16	27.94	30.48
Nb 2.54 sp (x)	2	3	3	4	6	4	6	4	4	11	12
Lead diam (d)	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1,0	1.2
Min Height (H)	6	6	6	6	6	6	6	6	6	4	6
Max Height (H)	18	18	18	18	18	18	18	18	18	20,1	18
Lead Lenght (F)	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0



QUICK REFERENCE DATA (Max capacitance)

	1210			1812			1825			2220			2225			2825			Height H (1/10 mm)
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
min	12 nF	39 nF	150 nF	27 nF	82 nF	330 nF	56 nF	180 nF	820 nF	56 nF	180 nF	820 nF	68 nF	220 nF	1.0 µF	100 nF	330 nF	1.2 µF	
16V	*220 nF* *220 nF* *470 nF*	68 nF 220 nF 270 nF	*22 µF* *22 µF* *47 µF*	220 nF 470 nF 680 nF	150 nF 470 nF 560 nF	*15 µF* *33 µF* *68 µF*	82 nF 150 nF 330 nF 390 nF	330 nF 1.0 µF 1.2 µF 1.8 µF	*2.2 µF* *10 µF* *18 µF* *27 µF* *27 µF* *47 µF*	*470 nF* *1.0 µF* *1.5 µF* *1.8 µF* *2.2 µF*	330 nF 1.0 µF 1.2 µF 1.8 µF	*10 µF* *22 µF* *47 µF* *68 µF* *68 µF*	100 nF 180 nF 390 nF 470 nF	390 nF 820 nF 1.5 µF 1.8 µF	*3.3 µF* *10 µF* *18 µF* *27 µF* *27 µF* *47 µF*	120 nF 270 nF 390 nF 470 nF 680 nF	470 nF 1.0 µF 1.5 µF 1.8 µF 2.7 µF	3.3 µF 5.6 µF 10 µF 12 µF 15 µF	020 040 060 080 100 140
25V	*220 nF* *470 nF* *220 nF*	68 nF 220 nF 270 nF	*22 µF* *1.2 µF* *2.2 µF*	220 nF 68 nF 150 nF	150 nF 470 nF 560 nF	*10 µF* *2.7 µF* *3.9 µF*	82 nF 150 nF 330 nF 390 nF	330 nF 1.0 µF 1.2 µF 1.8 µF	*2.2 µF* *5.6 µF* *8.2 µF* *12 µF*	*470 nF* *180 nF* *330 nF* *390 nF*	330 nF 1.0 µF 1.2 µF 1.8 µF	*10 µF* *6.8 µF* *8.2 µF* *12 µF*	100 nF 180 nF 390 nF 470 nF	390 nF 820 nF 1.5 µF 1.8 µF	*3.3 µF* *4.7 µF* *10 µF* *12 µF*	120 nF 270 nF 390 nF 470 nF 680 nF	470 nF 1.0 µF 1.5 µF 1.8 µF 2.7 µF	3.3 µF 5.6 µF 10 µF 12 µF 15 µF	020 040 060 080 100 140
50V	*150 nF* *56 nF* *68 nF*	68 nF 220 nF 270 nF	*10 µF* *1.2 µF* *2.2 µF*	220 nF 68 nF 150 nF	150 nF 470 nF 560 nF	*2.2 µF* *2.7 µF* *3.9 µF*	82 nF 150 nF 330 nF 390 nF	330 nF 1.0 µF 1.2 µF 1.8 µF	*2.2 µF* *5.6 µF* *8.2 µF* *12 µF*	*470 nF* *180 nF* *330 nF* *390 nF*	330 nF 1.0 µF 1.2 µF 1.8 µF	*4.7 µF* *6.8 µF* *8.2 µF* *12 µF*	100 nF 180 nF 390 nF 470 nF	390 nF 820 nF 1.5 µF 1.8 µF	*3.3 µF* *4.7 µF* *10 µF* *12 µF*	120 nF 270 nF 390 nF 470 nF 680 nF	470 nF 1.0 µF 1.5 µF 1.8 µF 2.7 µF	3.3 µF 5.6 µF 10 µF 12 µF 15 µF	020 040 060 080 100 140
100V	*100 nF* *56 nF* *68 nF*	68 nF 220 nF 270 nF	*4.7 µF* *1.2 µF* *2.2 µF*	150 nF 68 nF 150 nF	150 nF 470 nF 560 nF	*1.0 µF* *2.7 µF* *3.9 µF*	82 nF 150 nF 330 nF 390 nF	330 nF 1.0 µF 1.2 µF 1.8 µF	*2.2 µF* *5.6 µF* *8.2 µF* *12 µF*	*330 nF* *180 nF* *330 nF* *390 nF*	330 nF 1.0 µF 1.2 µF 1.8 µF	*3.3 µF* *6.8 µF* *8.2 µF* *12 µF*	100 nF 180 nF 390 nF 470 nF	390 nF 820 nF 1.5 µF 1.8 µF	*3.3 µF* *4.7 µF* *10 µF* *12 µF*	120 nF 270 nF 390 nF 470 nF 680 nF	470 nF 1.0 µF 1.5 µF 1.8 µF 2.7 µF	3.3 µF 5.6 µF 10 µF 12 µF 15 µF	020 040 060 080 100 140
250V	18 nF 33 nF 68 nF	68 nF 220 nF 270 nF	390 nF 1.2 µF 1.5 µF	39 nF 68 nF 150 nF	150 nF 270 nF 560 nF	820 nF 1.5 µF 3.3 µF	82 nF 150 nF 330 nF 390 nF	330 nF 680 nF 1.2 µF 1.5 µF	1.8 µF 3.3 µF 6.8 µF 8.2 µF	82 nF 180 nF 330 nF 390 nF	330 nF 680 nF 1.2 µF 1.8 µF	1.8 µF 3.9 µF 6.8 µF 10 µF	100 nF 180 nF 390 nF 470 nF 560 nF	390 nF 820 nF 1.5 µF 1.8 µF	2.2 µF 4.7 µF 10 µF 12 µF	120 nF 270 nF 390 nF 470 nF 680 nF	470 nF 1.0 µF 1.5 µF 1.8 µF 2.7 µF	2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	020 040 060 080 100 140
500V	15 nF 33 nF 68 nF	39 nF 82 nF 120 nF	180 nF 390 nF 560 nF	33 nF 68 nF 100 nF	82 nF 180 nF 270 nF	390 nF 390 nF 820 nF	68 nF 150 nF 220 nF 390 nF 470 nF	180 nF 390 nF 560 nF 820 nF 1.0 µF	820 nF 820 nF 1.8 µF 2.7 µF 3.3 µF 4.7 µF	82 nF 150 nF 220 nF 390 nF 470 nF	220 nF 390 nF 560 nF 820 nF 1.0 µF	820 nF 820 nF 1.8 µF 2.7 µF 3.3 µF	100 nF 180 nF 270 nF 470 nF 560 nF	270 nF 470 nF 820 nF 1.0 µF 1.2 µF	1.0 µF 1.0 µF 2.2 µF 3.3 µF 4.7 µF 6.8 µF	120 nF 220 nF 390 nF 470 nF 560 nF	330 nF 680 nF 1.0 µF 1.2 µF 1.5 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 5.6 µF 8.2 µF	020 040 060 080 100 140

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QUICK REFERENCE DATA (Max capacitance)

	3033			3640			4040			40100			5550			6080			Height H (1/10 mm)
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
min	39 nF	120 nF	270 nF	56 nF	150 nF	390 nF	56 nF	180 nF	470 nF	150 nF	470 nF	1.2 µF	100 nF	330 nF	820 nF	180 nF	560 nF	1.5 µF	
100V	180 nF 330 nF 560 nF 820 nF	680 nF 1.2 µF 1.8 µF 3.3 µF	3.9 µF 8.2 µF 12 µF 22 µF	*330 nF* *470 nF* *680 nF* *1.2 µF*	1.0 µF 1.8 µF 2.7 µF 4.7 µF	5.6 µF 12 µF 18 µF 27 µF	270 nF 270 nF 560 nF 1.0 µF 1.5 µF	1.0 µF 1.0 µF 2.2 µF 3.9 µF 5.6 µF	6.8 µF 6.8 µF 12 µF 27 µF 39 µF	820 nF 820 nF 1.5 µF 3.3 µF 4.7 µF	2.7 µF 2.7 µF 5.6 µF 12 µF 18 µF	18 µF 18 µF 39 µF 82 µF 120 µF	390 nF 390 nF 820 nF 1.2 µF 2.2 µF 2.7 µF	1.5 µF 1.5 µF 3.3 µF 4.7 µF 8.2 µF 10 µF	10 µF 10 µF 22 µF 33 µF 47 µF 56 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.7 µF 2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	15 µF 15 µF 33 µF 47 µF 82 µF 100 µF	020 040 060 100 140 180
200V	180 nF 330 nF 560 nF 820 nF	680 nF 1.2 µF 1.8 µF 3.3 µF	3.9 µF 8.2 µF 12 µF 22 µF	*330 nF* *470 nF* *680 nF* *1.2 µF*	1.0 µF 1.8 µF 2.7 µF 4.7 µF	5.6 µF 12 µF 18 µF 27 µF	270 nF 270 nF 560 nF 1.0 µF 1.5 µF	1.0 µF 1.0 µF 2.2 µF 3.9 µF 5.6 µF	6.8 µF 6.8 µF 12 µF 27 µF 39 µF	820 nF 820 nF 1.5 µF 3.3 µF 4.7 µF	2.7 µF 2.7 µF 5.6 µF 12 µF 18 µF	18 µF 18 µF 39 µF 82 µF 120 µF	390 nF 390 nF 820 nF 1.2 µF 2.2 µF 2.7 µF	1.5 µF 1.5 µF 3.3 µF 4.7 µF 8.2 µF 10 µF	10 µF 10 µF 22 µF 33 µF 47 µF 56 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.7 µF 2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	15 µF 15 µF 33 µF 47 µF 82 µF 100 µF	020 040 060 100 140 180
250V	180 nF 330 nF 560 nF 820 nF	680 nF 1.2 µF 1.8 µF 3.3 µF	3.9 µF 8.2 µF 12 µF 22 µF	220 nF 470 nF 680 nF 1.2 µF	1.0 µF 1.8 µF 2.7 µF 4.7 µF	5.6 µF 12 µF 18 µF 27 µF	270 nF 270 nF 560 nF 1.0 µF 1.5 µF	1.0 µF 1.0 µF 2.2 µF 3.9 µF 5.6 µF	6.8 µF 6.8 µF 12 µF 27 µF 39 µF	820 nF 820 nF 1.5 µF 3.3 µF 4.7 µF	2.7 µF 2.7 µF 5.6 µF 12 µF 18 µF	18 µF 18 µF 39 µF 82 µF 120 µF	390 nF 390 nF 820 nF 1.2 µF 2.2 µF 2.7 µF	1.5 µF 1.5 µF 3.3 µF 4.7 µF 8.2 µF 10 µF	10 µF 10 µF 22 µF 33 µF 47 µF 56 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.7 µF 2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	15 µF 15 µF 33 µF 47 µF 82 µF 100 µF	020 040 060 100 140 180
500V	180 nF 330 nF 560 nF 820 nF	470 nF 820 nF 1.2 µF 2.2 µF	1.8 µF 1.8 µF 3.9 µF 8.2 µF 12 µF	220 nF 470 nF 680 nF 1.2 µF	680 nF 1.2 µF 1.8 µF 3.3 µF	2.7 µF 2.7 µF 5.6 µF 12 µF 18 µF	270 nF 270 nF 560 nF 1.0 µF 1.5 µF	680 nF 680 nF 1.5 µF 2.7 µF 4.7 µF	3.3 µF 3.3 µF 6.8 µF 12 µF 18 µF	820 nF 820 nF 1.5 µF 3.3 µF 4.7 µF	2.7 µF 2.7 µF 5.6 µF 12 µF 18 µF	12 µF 12 µF 22 µF 47 µF 68 µF	390 nF 390 nF 820 nF 1.2 µF 2.2 µF 2.7 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 6.8 µF 8.2 µF	5.6 µF 5.6 µF 10 µF 15 µF 27 µF 33 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.2 µF 2.2 µF 4.7 µF 6.8 µF 10 µF 12 µF	8.2 µF 10 µF 18 µF 27 µF 47 µF 56 µF	020 040 060 100 140 180
630V	120 nF 270 nF 390 nF 680 nF	330 nF 390 nF 680 nF 1.5 µF 2.2 µF	1.0 µF 1.5 µF 2.7 µF 4.7 µF 6.8 µF	180 nF 390 nF 560 nF 1.0 µF	470 nF 560 nF 1.0 µF 2.2 µF 3.3 µF	1.5 µF 2.2 µF 3.9 µF 6.8 µF 10 µF 12 µF	220 nF 220 nF 470 nF 820 nF 1.2 µF	470 nF 560 nF 1.2 µF 2.2 µF 3.3 µF	1.8 µF 2.2 µF 4.7 µF 6.8 µF 12 µF 15 µF	820 nF 820 nF 1.5 µF 3.3 µF 4.7 µF	1.8 µF 2.2 µF 4.7 µF 8.2 µF 12 µF	6.8 µF 8.2 µF 18 µF 27 µF 47 µF 56 µF	390 nF 390 nF 820 nF 1.2 µF 1.8 µF 2.2 µF	820 nF 1.0 µF 1.8 µF 2.7 µF 4.7 µF 5.6 µF	2.7 µF 3.9 µF 8.2 µF 12 µF 22 µF 22 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	1.5 µF 1.8 µF 3.3 µF 5.6 µF 8.2 µF 10 µF	4.7 µF 6.8 µF 15 µF 22 µF 33 µF 39 µF	020 040 060 100 140 180
1000V	56 nF 82 nF 180 nF 270 nF 390 nF	120 nF 220 nF 220 nF 680 nF 820 nF 1.2 µF	390 nF 820 nF 820 nF 1.8 µF 2.7 µF 3.3 µF	82 nF 120 nF 270 nF 390 nF 680 nF 680 nF	180 nF 330 nF 330 nF 1.0 µF 1.2 µF 1.8 µF	560 nF 1.2 µF 1.2 µF 2.7 µF 3.9 µF 4.7 µF	100 nF 150 nF 270 nF 390 nF 680 nF 820 nF	180 nF 390 nF 390 nF 1.2 µF 1.5 µF 1.8 µF	680 nF 1.5 µF 1.5 µF 2.7 µF 3.9 µF 5.6 µF	390 nF 560 nF 1.0 µF 1.5 µF 2.7 µF 3.3 µF	680 nF 1.5 µF 1.5 µF 3.9 µF 5.6 µF 6.8 µF	2.2 µF 5.6 µF 5.6 µF 10 µF 15 µF 22 µF	180 nF 220 nF 470 nF 680 nF 1.2 µF 1.2 µF	330 nF 680 nF 680 nF 1.8 µF 2.7 µF 3.3 µF	1.0 µF 2.2 µF 2.2 µF 4.7 µF 6.8 µF 10 µF	270 nF 390 nF 820 nF 1.2 µF 2.2 µF 2.7 µF	560 nF 1.0 µF 1.0 µF 3.3 µF 4.7 µF 5.6 µF	1.8 µF 3.9 µF 3.9 µF 8.2 µF 12 µF 15 µF	020 040 060 100 140 180

1) Max Values in italic obtained with BME parts

QUICK REFERENCE DATA (Max capacitance)

	6660			8060			80150			Height H (1/10 mm)
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
min	150 nF	470 nF	1.2 µF	180 nF	560 nF	1.5 µF	470 nF	1.2 µF	3.3 µF	
100V	560 nF 560 nF 1.2 µF 1.8 µF 2.7 µF 3.3 µF	2.2 µF 2.2 µF 4.7 µF 6.8 µF 12 µF 12 µF	15 µF 15 µF 27 µF 39 µF 68 µF 82 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.7 µF 2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	15 µF 15 µF 33 µF 47 µF 82 µF 100 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 6.8 µF 8.2 µF	5.6 µF 5.6 µF 10 µF 15 µF 27 µF 33 µF	33 µF 33 µF 68 µF 100 µF 150 µF 180 µF	020 040 060 100 140 180
200V	560 nF 560 nF 1.2 µF 1.8 µF 2.7 µF 3.3 µF	2.2 µF 2.2 µF 4.7 µF 6.8 µF 12 µF 12 µF	15 µF 15 µF 27 µF 39 µF 68 µF 82 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.7 µF 2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	15 µF 15 µF 33 µF 47 µF 82 µF 100 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 6.8 µF 8.2 µF	5.6 µF 5.6 µF 10 µF 15 µF 27 µF 33 µF	33 µF 33 µF 68 µF 100 µF 150 µF 180 µF	020 040 060 100 140 180
250V	560 nF 560 nF 1.2 µF 1.8 µF 2.7 µF 3.3 µF	2.2 µF 2.2 µF 4.7 µF 6.8 µF 12 µF 12 µF	15 µF 15 µF 27 µF 39 µF 68 µF 82 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.7 µF 2.7 µF 5.6 µF 8.2 µF 12 µF 15 µF	15 µF 15 µF 33 µF 47 µF 82 µF 100 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 6.8 µF 8.2 µF	5.6 µF 5.6 µF 10 µF 15 µF 27 µF 33 µF	33 µF 33 µF 68 µF 100 µF 150 µF 180 µF	020 040 060 100 140 180
500V	560 nF 560 nF 1.2 µF 1.8 µF 2.7 µF 3.3 µF	1.8 µF 1.8 µF 3.9 µF 5.6 µF 8.2 µF 10 µF	6.8 µF 8.2 µF 15 µF 22 µF 39 µF 47 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	2.2 µF 2.2 µF 4.7 µF 6.8 µF 10 µF 12 µF	8.2 µF 10 µF 18 µF 27 µF 47 µF 56 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 6.8 µF 8.2 µF	5.6 µF 5.6 µF 10 µF 15 µF 27 µF 33 µF	22 µF 22 µF 47 µF 68 µF 120 µF 150 µF	020 040 060 100 140 180
630V	560 nF 560 nF 1.0 µF 1.5 µF 2.7 µF 3.3 µF	1.2 µF 1.5 µF 2.7 µF 3.9 µF 8.2 µF 10 µF	3.9 µF 5.6 µF 12 µF 18 µF 27 µF 33 µF	680 nF 680 nF 1.2 µF 1.8 µF 3.3 µF 3.9 µF	1.5 µF 1.8 µF 3.3 µF 5.6 µF 8.2 µF 10 µF	4.7 µF 6.8 µF 15 µF 22 µF 33 µF 39 µF	1.2 µF 1.2 µF 2.7 µF 3.9 µF 6.8 µF 8.2 µF	3.9 µF 4.7 µF 8.2 µF 15 µF 22 µF 27 µF	12 µF 18 µF 33 µF 68 µF 82 µF 100 µF	020 040 060 100 140 180
1000V	220 nF 330 nF 680 nF 1.0 µF 1.8 µF 2.2 µF	470 nF 820 nF 820 nF 2.7 µF 3.9 µF 4.7 µF	1.5 µF 3.3 µF 3.3 µF 6.8 µF 10 µF 12 µF	270 nF 390 nF 820 nF 1.2 µF 2.2 µF 2.7 µF	560 nF 1.0 µF 1.0 µF 3.3 µF 4.7 µF 5.6 µF	1.8 µF 3.9 µF 3.9 µF 8.2 µF 12 µF 15 µF	680 nF 1.0 µF 2.2 µF 3.3 µF 5.6 µF 5.6 µF	1.5 µF 2.7 µF 2.7 µF 8.2 µF 10 µF 12 µF	4.7 µF 10 µF 10 µF 22 µF 33 µF 39 µF	020 040 060 100 140 180

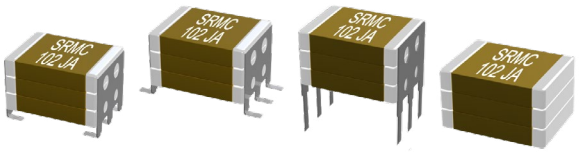
STACKED CAPACITOR High Voltage

NPO N2T X7R 1KV-10KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Switch Mode Power Capacitor**
- **for Input / Output Filtering**



RoHS compliant

FEATURES

- **High reliability, 100% burn-in**
- **Low ESR and ESL design**
- **High frequency switch**
- **Custom designs with any size, voltage, capacity, leads...**
- **Marking**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 1.2U U≤2000 I U U>2000

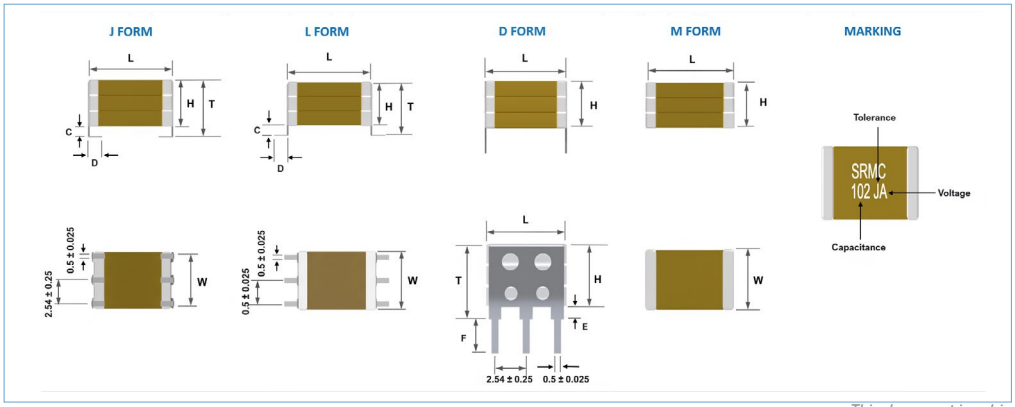
ORDERING INFORMATION

SRMC	-	2225	Y	102	J	G	-	L	100	-	B	-
SERIES	HT	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	LEAD FRAME	FORM	HEIGHT (H)	COATING	PACKAG-ING	SPECIAL
SRMC	- H = High Temp	1812 1825 2220 2225 3033 3640 4040 40100 5550 6560 6660 8060 80150	A = NP0 P = N2T Y = X7R X = BX BY = 2C1	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	G = 1KV H = 2KV I = 3KV L = 5KV 8 = 8KV 10 = 10KV	- = Tin Plated N = SnPb Plated	L J D M U = 4 leads	020 030 040 050 060 070 080 090 100 110 120 130 140 160 180	- I = Conformal Coating H = Epox yCoating	B = Reel V = Bulk	- BM = BME Dxx = Reli-ability spec Exx = Sorting spec

For J, L, M form, total height (T) is obtained by adding lead height (C/E) to specified chip height (H) in 1/10mm
For other sizes, voltage, tolerance contact us

DIMENSIONS (IN MILLIMETERS)

	1812	1825	2220	2225	2825	3033	3640	4040	40100	5550	6080	6560 /6660	8060	80150
Lenght (L)	5.10 ± 0.4	5.10 ± 0.4	6.20 ± 0.4	6.20 ± 0.4	7.70 ± 0.4	8.20 ± 0.4	9.75 ± 0.5	10.80 ± 0.8	10.80 ± 1.0	14.60 ± 1.0	15.80 ± 1.0	17.40 ± 1.0	20.90 ± 1.0	20.90 ± 1.0
Width (W)	3.20 ± 0.4	6.35 ± 0.4	5.10 ± 0.4	6.35 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.5	10.20 ± 0.8	25.40 ± 1.0	12.70 ± 1.0	20.30 ± 1.0	15.20 ± 1.0	15.20 ± 1.0	38.10 ± 1.0
Nb of Leads	2	3	3	3	3	3	4	4	10	5	8	6	6	15
Min Height (T)	2.8	3.0	3.0	3.1	3.4	3.5	3.6	4.0	4.0	4.3	4.4	4.5	4.5	4.5
Max Height (T)	9.6	16.2	16.2	16.2	16.9	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
Lead Height (C)	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3
lead Lenght (D)	1.4 ± 0.3	1.6 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3
Lead Height (E)	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3
Lead Lenght (F)	4.0 ± 1.0	4.5 ± 1.0	5.0 ± 1.0	5.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0

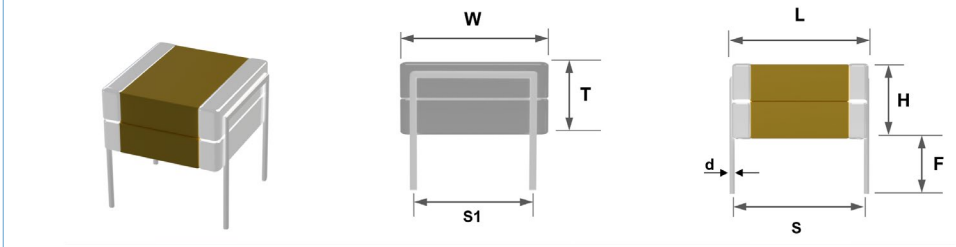


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DIMENSIONS 4 WIRES (In millimeters)

	3033	3640	5550	5550	5550	6080	6080	6660	8060	40100	80150
Lenght (L)	9.20 ± 0.5	11.15 ± 0.5	16.00 ± 0.5	16.00 ± 0.5	16.00 ± 0.5	17.20 ± 0.5	17.20 ± 0.5	18.80 ± 0.5	22.30 ± 0.5	12.20 ± 0.5	22.70 ± 0.5
Width (W)	8.40 ± 0.5	10.20 ± 0.5	12.70 ± 0.5	12.70 ± 0.5	12.70 ± 0.5	20.30 ± 0.5	20.30 ± 0.5	15.20 ± 0.5	15.20 ± 0.5	25.40 ± 0.5	38.10 ± 0.5
Lead Space (S)	8.40	10.15	15.00	15.00	15.00	16.20	16.20	17.80	21.30	11.20	21.50
Lead Width (S1)	5.08	7.62	7.62	10.16	15.24	10.16	15.24	10.16	10.16	27.94	30.48
Nb 2.54 sp (x)	2	3	3	4	6	4	6	4	4	11	12
Lead diam (d)	0,8	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,2
Min Height (H)	3,5	3,6	4,3	4,3	4,3	4,4	4,4	4,5	4,5	4	4,5
Max Height (H)	20,1	20,1	20,1	20,1	20,1	20,1	20,1	20,1	20,1	20,1	20,1
Lead Lenght (F)	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0	25 ±1.0

4 WIRES FORM



QUICK REFERENCE DATA (Max capacitance)

	1812			1825			2220			2225			3033			3640			Height H (1/10 mm)
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
min	12 pF	39 pF	1.0 nF	33 pF	100 pF	2.2 nF	82 pF	220 pF	470 pF	100 pF	220 pF	560 pF	180 pF	560 pF	1.2 nF	270 pF	820 pF	1.8 nF	
1KV	12 nF 18 nF 33 nF	22 nF 47 nF 47 nF	68 nF 120 nF 120 nF	27 nF 39 nF 68 nF 120 nF 180 nF	56 nF 100 nF 100 nF 270 nF 390 nF	150 nF 330 nF 680 nF 1.0 µF	27 nF 39 nF 82 nF 120 nF	56 nF 100 nF 100 nF 330 nF	150 nF 390 nF 820 nF	33 nF 47 nF 100 nF 150 nF 220 nF	68 nF 120 nF 120 nF 390 nF 470 nF	220 nF 470 nF 470 nF 1.0 µF 1.5 µF	56 nF 82 nF 180 nF 270 nF 390 nF	120 nF 220 nF 220 nF 680 nF 820 nF 1.2 µF	390 nF 820 nF 820 nF 1.8 µF 2.7 µF 3.3 µF	82 nF 120 nF 270 nF 390 nF 680 nF 680 nF	180 nF 330 nF 330 nF 1.0 µF 1.2 µF 1.8 µF	560 nF 1.2 µF 1.2 µF 2.7 µF 3.9 µF 4.7 µF	020 040 060 100 140 180
2KV	2.2 nF 4.7 nF 4.7 nF	3.9 nF 6.8 nF 12 nF	12 nF 22 nF 22 nF	4.7 nF 12 nF 12 nF 22 nF 33 nF	10 nF 15 nF 33 nF 47 nF 56 nF	33 nF 56 nF 56 nF 120 nF 180 nF	5.6 nF 12 nF 12 nF 27 nF	10 nF 15 nF 33 nF 47 nF	33 nF 68 nF 68 nF 150 nF	6.8 nF 18 nF 18 nF 33 nF 47 nF	12 nF 22 nF 39 nF 56 nF 82 nF	39 nF 100 nF 100 nF 180 nF 270 nF	12 nF 27 nF 27 nF 56 nF 82 nF 120 nF	22 nF 39 nF 82 nF 120 nF 150 nF 220 nF	82 nF 180 nF 180 nF 390 nF 560 nF 680 nF	18 nF 47 nF 47 nF 82 nF 120 nF 180 nF	33 nF 56 nF 120 nF 180 nF 220 nF 330 nF	120 nF 270 nF 270 nF 560 nF 820 nF 1.0 µF	020 040 060 100 140 180
3KV	820 pF 1.2 nF 2.2 nF	1.5 nF 2.7 nF 5.6 nF	5.6 nF 10 nF 10 nF	1.8 nF 2.7 nF 5.6 nF 8.2 nF 12 nF	3.3 nF 5.6 nF 12 nF 18 nF 22 nF	12 nF 27 nF 27 nF 47 nF 68 nF	1.8 nF 2.7 nF 5.6 nF 8.2 nF	3.9 nF 6.8 nF 6.8 nF 15 nF	12 nF 27 nF 27 nF 56 nF	2.7 nF 3.9 nF 8.2 nF 12 nF 15 nF	4.7 nF 10 nF 10 nF 18 nF 27 nF	18 nF 33 nF 33 nF 68 nF 100 nF	4.7 nF 8.2 nF 15 nF 22 nF 27 nF 47 nF	8.2 nF 18 nF 18 nF 33 nF 56 nF 68 nF	33 nF 68 nF 68 nF 120 nF 180 nF 270 nF	6.8 nF 12 nF 22 nF 33 nF 47 nF 68 nF	47 nF 100 nF 100 nF 180 nF 270 nF 390 nF	020 040 060 100 140 180
5KV	220 pF 390 pF 390 pF	470 pF 820 pF 820 pF	1.5 nF 2.7 nF 2.7 nF	560 pF 1.2 nF 1.2 nF 2.2 nF 3.3 nF	1.0 nF 2.2 nF 2.2 nF 4.7 nF 6.8 nF	3.3 nF 8.2 nF 8.2 nF 15 nF 22 nF	560 pF 1.5 nF 1.5 nF 2.7 nF	1.2 nF 2.2 nF 2.2 nF 4.7 nF	3.9 nF 10 nF 10 nF 18 nF	680 pF 1.8 nF 1.8 nF 3.9 nF 5.6 nF	1.5 nF 3.3 nF 3.3 nF 6.8 nF 10 nF	4.7 nF 12 nF 12 nF 27 nF 39 nF	1.5 nF 3.9 nF 3.9 nF 6.8 nF 10 nF 15 nF	2.7 nF 5.6 nF 5.6 nF 12 nF 18 nF 22 nF	10 nF 22 nF 22 nF 47 nF 68 nF 100 nF	2.2 nF 4.7 nF 4.7 nF 10 nF 15 nF 22 nF	3.9 nF 8.2 nF 8.2 nF 18 nF 27 nF 33 nF	15 nF 33 nF 33 nF 68 nF 100 nF 120 nF	020 040 060 100 140 180
8KV	82 pF 150 pF 150 pF	120 pF 270 pF 270 pF	390 pF 1.0 nF 1.0 nF	180 pF 390 pF 390 pF 820 pF 1.5 nF	270 pF 680 pF 680 pF 1.5 nF 2.2 nF	1.0 nF 2.7 nF 2.7 nF 5.6 nF 8.2 nF	220 pF 390 pF 390 pF 820 pF	390 pF 820 pF 820 pF 1.8 nF	1.2 nF 2.7 nF 2.7 nF 5.6 nF	270 pF 560 pF 560 pF 1.0 nF 2.2 nF	470 pF 1.2 nF 1.2 nF 2.2 nF 3.3 nF	1.5 nF 3.9 nF 3.9 nF 8.2 nF 12 nF	560 pF 1.0 nF 1.0 nF 1.8 nF 2.7 nF 4.7 nF	1.0 nF 2.2 nF 2.2 nF 4.7 nF 6.8 nF 8.2 nF	2.7 nF 6.8 nF 6.8 nF 15 nF 22 nF 27 nF	680 pF 1.5 nF 1.5 nF 2.7 nF 4.7 nF 6.8 nF	1.5 nF 3.3 nF 3.3 nF 6.8 nF 10 nF 12 nF	3.9 nF 10 nF 10 nF 22 nF 33 nF 39 nF	020 040 060 100 140 180
10KV	39 pF 100 pF 100 pF	39 pF 100 pF 100 pF		100 pF 220 pF 220 pF 470 pF 680 pF	100 pF 270 pF 270 pF 560 pF 820 pF		120 pF 270 pF 270 pF 560 pF	220 pF 470 pF 470 pF 1.0 nF	680 pF 1.5 nF 1.5 nF 3.9 nF	150 pF 390 pF 390 pF 820 pF 1.2 nF	220 pF 680 pF 680 pF 1.2 nF 1.8 nF	820 pF 1.8 nF 1.8 nF 5.6 nF 6.8 nF	330 pF 680 pF 680 pF 1.5 nF 2.2 nF 2.7 nF	560 pF 1.2 nF 1.2 nF 2.7 nF 3.9 nF 5.6 nF	1.8 nF 3.9 nF 3.9 nF 10 nF 15 nF 18 nF	470 pF 1.0 nF 1.0 nF 2.2 nF 2.2 nF 3.3 nF 3.9 nF	820 pF 1.8 nF 1.8 nF 3.9 nF 3.9 nF 5.6 nF 8.2 nF	2.7 nF 5.6 nF 5.6 nF 15 nF 15 nF 22 nF 27 nF	020 040 060 100 140 180

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QUICK REFERENCE DATA (Max capacitance)

	4040			40100			5550			6660			8060			80150			Height H (1/10 mm)
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
	330 pF	820 pF	1.8 nF	820 pF	2.2 nF	4.7 nF	560 pF	1.5 nF	3.3 nF	820 pF	2.2 nF	4.7 nF	1.0 nF	2.7 nF	5.6 nF	2.2 nF	6.8 nF	15 nF	
1KV	100 nF	180 nF	680 nF	220 nF	470 nF	1.5 µF	180 nF	330 nF	1.0 µF	220 nF	470 nF	1.5 µF	270 nF	560 nF	1.8 µF	680 nF	1.5 µF	4.7 µF	020
	150 nF	390 nF	1.5 µF	330 nF	1.0 µF	3.3 µF	220 nF	680 nF	2.2 µF	330 nF	820 nF	3.3 µF	390 nF	1.0 µF	3.9 µF	1.0 µF	2.7 µF	10 µF	040
	270 nF	390 nF	1.5 µF	680 nF	1.0 µF	3.3 µF	470 nF	680 nF	2.2 µF	680 nF	820 nF	3.3 µF	820 nF	1.0 µF	3.9 µF	2.2 µF	2.7 µF	10 µF	060
	390 nF	1.2 µF	2.7 µF	1.0 µF	2.7 µF	6.8 µF	680 nF	1.8 µF	4.7 µF	1.0 µF	2.7 µF	6.8 µF	1.2 µF	3.3 µF	8.2 µF	3.3 µF	8.2 µF	22 µF	100
	680 nF	1.5 µF	3.9 µF	1.8 µF	3.9 µF	10 µF	1.2 µF	2.7 µF	6.8 µF	1.8 µF	3.9 µF	10 µF	2.2 µF	4.7 µF	12 µF	5.6 µF	10 µF	33 µF	140
	820 nF	1.8 µF	5.6 µF	2.2 µF	4.7 µF	15 µF	1.5 µF	3.3 µF	10 µF	2.2 µF	4.7 µF	12 µF	2.7 µF	5.6 µF	15 µF	5.6 µF	12 µF	39 µF	180
2KV	18 nF	39 nF	120 nF	47 nF	100 nF	330 nF	33 nF	68 nF	220 nF	47 nF	100 nF	330 nF	56 nF	120 nF	390 nF	150 nF	270 nF	1.0 µF	020
	47 nF	68 nF	270 nF	120 nF	150 nF	680 nF	82 nF	120 nF	470 nF	120 nF	150 nF	680 nF	150 nF	180 nF	820 nF	390 nF	470 nF	2.2 µF	040
	47 nF	120 nF	270 nF	120 nF	330 nF	680 nF	82 nF	220 nF	470 nF	120 nF	330 nF	680 nF	150 nF	390 nF	820 nF	390 nF	1.0 µF	2.2 µF	060
	100 nF	180 nF	560 nF	220 nF	470 nF	1.5 µF	150 nF	330 nF	1.0 µF	220 nF	470 nF	1.5 µF	270 nF	560 nF	1.8 µF	680 nF	1.5 µF	4.7 µF	100
	150 nF	270 nF	820 nF	390 nF	680 nF	2.2 µF	220 nF	470 nF	1.5 µF	330 nF	680 nF	2.2 µF	390 nF	820 nF	2.7 µF	1.0 µF	1.8 µF	6.8 µF	140
	180 nF	390 nF	1.2 µF	470 nF	1.0 µF	2.7 µF	330 nF	680 nF	2.2 µF	470 nF	1.0 µF	2.7 µF	560 nF	1.2 µF	3.3 µF	1.5 µF	2.7 µF	8.2 µF	180
3KV	8.2 nF	15 nF	56 nF	18 nF	33 nF	120 nF	12 nF	22 nF	82 nF	18 nF	33 nF	120 nF	22 nF	39 nF	150 nF	56 nF	100 nF	390 nF	020
	12 nF	27 nF	100 nF	33 nF	68 nF	270 nF	22 nF	47 nF	180 nF	27 nF	68 nF	270 nF	39 nF	82 nF	330 nF	82 nF	220 nF	820 nF	040
	22 nF	27 nF	100 nF	56 nF	68 nF	270 nF	39 nF	47 nF	180 nF	56 nF	68 nF	270 nF	68 nF	82 nF	330 nF	180 nF	220 nF	820 nF	060
	39 nF	56 nF	220 nF	100 nF	150 nF	560 nF	68 nF	100 nF	390 nF	82 nF	150 nF	560 nF	100 nF	180 nF	680 nF	270 nF	390 nF	1.5 µF	100
	47 nF	82 nF	330 nF	120 nF	220 nF	820 nF	82 nF	150 nF	560 nF	120 nF	220 nF	820 nF	150 nF	270 nF	1.0 µF	390 nF	680 nF	2.2 µF	140
	68 nF	120 nF	390 nF	180 nF	270 nF	1.0 µF	120 nF	180 nF	680 nF	180 nF	270 nF	1.0 µF	220 nF	330 nF	1.2 µF	560 nF	820 nF	3.3 µF	180
5KV	2.2 nF	4.7 nF	18 nF	5.6 nF	12 nF	39 nF	3.9 nF	8.2 nF	27 nF	5.6 nF	12 nF	39 nF	6.8 nF	12 nF	47 nF	18 nF	33 nF	120 nF	020
	5.6 nF	10 nF	39 nF	15 nF	22 nF	100 nF	10 nF	18 nF	68 nF	15 nF	22 nF	100 nF	18 nF	27 nF	120 nF	39 nF	68 nF	270 nF	040
	5.6 nF	10 nF	39 nF	15 nF	22 nF	100 nF	10 nF	18 nF	68 nF	15 nF	22 nF	100 nF	18 nF	27 nF	120 nF	39 nF	68 nF	270 nF	060
	12 nF	18 nF	82 nF	27 nF	47 nF	180 nF	18 nF	33 nF	120 nF	27 nF	47 nF	180 nF	33 nF	56 nF	220 nF	82 nF	150 nF	560 nF	100
	18 nF	27 nF	120 nF	39 nF	68 nF	270 nF	27 nF	47 nF	180 nF	39 nF	68 nF	270 nF	47 nF	82 nF	330 nF	120 nF	220 nF	820 nF	140
	22 nF	39 nF	150 nF	56 nF	100 nF	390 nF	39 nF	68 nF	270 nF	56 nF	100 nF	390 nF	68 nF	120 nF	470 nF	180 nF	270 nF	1.2 µF	180
8KV	820 pF	1.5 nF	4.7 nF	2.2 nF	3.9 nF	12 nF	1.5 nF	2.7 nF	8.2 nF	1.8 nF	3.9 nF	12 nF	2.2 nF	4.7 nF	15 nF	5.6 nF	12 nF	33 nF	020
	1.5 nF	3.9 nF	12 nF	3.9 nF	10 nF	27 nF	2.7 nF	6.8 nF	22 nF	3.9 nF	8.2 nF	27 nF	4.7 nF	10 nF	33 nF	12 nF	27 nF	82 nF	040
	1.5 nF	3.9 nF	12 nF	3.9 nF	10 nF	27 nF	2.7 nF	6.8 nF	22 nF	3.9 nF	8.2 nF	27 nF	4.7 nF	10 nF	33 nF	12 nF	27 nF	82 nF	060
	3.3 nF	6.8 nF	22 nF	8.2 nF	18 nF	56 nF	5.6 nF	12 nF	39 nF	8.2 nF	18 nF	56 nF	10 nF	22 nF	68 nF	22 nF	56 nF	180 nF	100
	4.7 nF	12 nF	39 nF	12 nF	27 nF	82 nF	8.2 nF	18 nF	56 nF	12 nF	27 nF	82 nF	15 nF	33 nF	100 nF	39 nF	82 nF	270 nF	140
	8.2 nF	15 nF	47 nF	22 nF	39 nF	120 nF	15 nF	27 nF	82 nF	18 nF	39 nF	120 nF	22 nF	47 nF	150 nF	56 nF	100 nF	330 nF	180
10KV	470 pF	1.0 nF	2.7 nF	1.2 nF	2.2 nF	6.8 nF	820 pF	1.5 nF	4.7 nF	1.2 nF	2.2 nF	6.8 nF	1.5 nF	2.7 nF	8.2 nF	3.9 nF	6.8 nF	22 nF	020
	1.2 nF	2.2 nF	5.6 nF	2.7 nF	5.6 nF	15 nF	1.8 nF	3.9 nF	10 nF	2.7 nF	5.6 nF	15 nF	3.3 nF	6.8 nF	18 nF	8.2 nF	15 nF	47 nF	040
	1.2 nF	2.2 nF	5.6 nF	2.7 nF	5.6 nF	15 nF	1.8 nF	3.9 nF	10 nF	2.7 nF	5.6 nF	15 nF	3.3 nF	6.8 nF	18 nF	8.2 nF	15 nF	47 nF	060
	2.2 nF	3.9 nF	18 nF	5.6 nF	10 nF	47 nF	3.9 nF	6.8 nF	33 nF	5.6 nF	10 nF	47 nF	6.8 nF	12 nF	56 nF	18 nF	33 nF	120 nF	100
	3.3 nF	6.8 nF	22 nF	8.2 nF	15 nF	56 nF	5.6 nF	10 nF	39 nF	8.2 nF	15 nF	56 nF	10 nF	18 nF	68 nF	27 nF	47 nF	180 nF	140
	4.7 nF	8.2 nF	27 nF	12 nF	22 nF	68 nF	8.2 nF	15 nF	47 nF	12 nF	22 nF	68 nF	12 nF	27 nF	82 nF	33 nF	68 nF	220 nF	180

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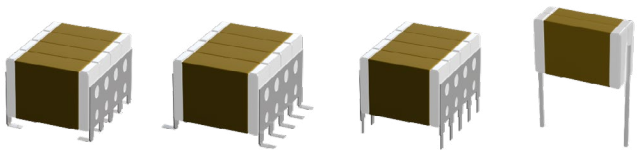
STACKED CAPACITOR Vertical

NPO N2T X7R 25V-10KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Switch Mode Power Capacitor**
- **DC/DC Converter**



RoHS compliant

FEATURES

- **Low ESR and ESL design**
- **Chips mounted verticaly for better ESL**
- **1210 with two Chips per row**
- **Available with 2 leads termination**
- **Competitors design equivalent**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5U U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 2U U<500V I 1.5U 500≤U<1000 I 1.2U 1000≤U≤2000 I 1U U>2000

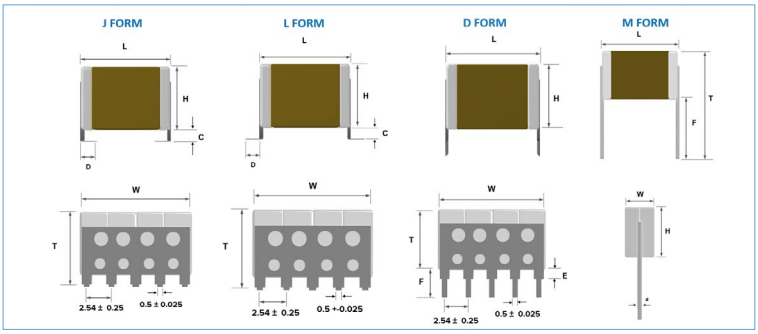
ORDERING INFORMATION

SRTV	-	2225	Y	102	J	A	-	L	2	-	B	-
SERIES	**HT**	**SIZE**	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**LEAD FRAME**	**FORM**	**LEADS**	**COATING**	**PACKAGING**	**SPECIAL**
SRTV	- H = High Temp	1210 1812 2220 2225 2825 3033 3640 4040 5550 6660 8060	A = NP0 P = N2T Y = X7R X = BX BY = 2C1	Expressed in picofarads (pF). significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% E = ±0.1% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	X = 25V A = 50V B = 100V C = 200V E = 500V F = 630V G = 1000V O = 1500V H = 2000V I = 3000V L = 5000V 10 = 10000V	- = Tin Plated N = SnPb Plated	J L D T = 2 leads JP = plain J Lead	- 1 10	- I = Conformal Coating H = Epoxy Coating	B = Reel V = Bulk	- BM = BME Dxx = Reliability spec Exx = Sorting spec

DIMENSIONS (IN MILLIMETERS)

	1210	1812	2220	2225	3033	3640	4040	5440	5550	6560	6080	8060
Lenght (L)	3.80 ± 0.3	5.10 ± 0.4	6.20 ± 0.4	6.20 ± 0.4	8.20 ± 0.4	10.00 ± 0.4	10.80 ± 0.4	14.30 ± 0.4	14.60 ± 0.4	17.10 ± 0.4	15.80 ± 0.4	20.90 ± 0.4
Width(W) 2 Leads	5.80 -0+2.5											
Width(W) 3 Leads	5.80 -0+2.5	5.80 -0+2.5	5.80 -0+2.5	5.80 -0+2.5	5.80 -0+2.5	5.80 -0+2.5	5.80 -0+2.5					
Width(W) 4 Leads	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	8.30 -0+2.5	
Width(W) 5 Leads	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5	10.90 -0+2.5
Width(W) 6 Leads	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5	13.40 -0+2.5
Width(W) 7 Leads	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5	15.90 -0+2.5
Width(W) 8 Leads	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5	18.50 -0+2.5
Width(W) 9 Leads	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5	21.00 -0+2.5
Width(W) 10 Leads	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5	23.60 -0+2.5
Width(W) 11 Leads	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5	26.10 -0+2.5
Height (H)	5.30 ± 0.3	3.20 ± 0.4	5.10 ± 0.4	6.35 ± 0.4	8.40 ± 0.4	10.20 ± 0.4	10.20 ± 0.4	10.20 ± 0.4	12.70 ± 0.4	15.20 ± 0.4	20.30 ± 0.4	15.20 ± 0.4
Height (T)	6.60 ± 0.3	5.00 ± 0.4	6.90 ± 0.4	8.15 ± 0.4	10.20 ± 0.4	12.00 ± 0.4	12.00 ± 0.4	12.00 ± 0.4	14.50 ± 0.4	17.00 ± 0.4	22.10 ± 0.4	17.00 ± 0.4
Lead Height (C)	1.3 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3
lead Lenght (D)	1.3 ± 0.3	1.4 ± 0.3	1.6 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3	1.8 ± 0.3
Lead Height (E)	1.0 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3	1.3 ± 0.3
Lead Lenght (F)	4.0 ± 1.0	4.0 ± 1.0	4.5 ± 1.0	5.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0	6.0 ± 1.0

Number of leads represent the number individual legs of the lead frame.



This document is subject to change without notice.

QUICK REFERENCE DATA (Max capacitance in µF)

	Leads	1210			1812			2220			2225			3033			3740			Leads
		NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
min		820 pF	1.2 nF	6.8 nF	1.8 nF	3.3 nF	18 nF	3.9 nF	6.8 nF	39 nF	4.7 nF	8.2 nF	56 nF	8.2 nF	15 nF	100 nF	12 nF	22 nF	150 nF	
25V	2	*820 nF*	270 nF	*39 µF*	*220 nF*	390 nF	22 µF	*470 nF*	1.0 µF	*47 µF*	270 nF	1.0 µF	*10 µF*	330 nF	1.2 µF	8.2 µF	470 nF	1.8 µF	12 µF	2
	3	*820 nF*	390 nF	*82 µF*	*390 nF*	680 nF	39 µF	*820 nF*	1.5 µF	*82 µF*	470 nF	1.8 µF	*18 µF*	680 nF	2.7 µF	15 µF	680 nF	2.7 µF	18 µF	3
	4	*1.2 µF*	560 nF	*120 µF*	*560 nF*	1.0 µF	56 µF	*1.2 µF*	2.2 µF	*120 µF*	680 nF	2.7 µF	*27 µF*	820 nF	3.3 µF	18 µF	1.2 µF	4.7 µF	27 µF	4
	5	*1.5 µF*	680 nF	*150 µF*	*820 nF*	1.2 µF	82 µF	*1.8 µF*	2.7 µF	*180 µF*	680 nF	2.7 µF	*39 µF*	1.0 µF	3.9 µF	22 µF	1.2 µF	5.6 µF	33 µF	5
	6	*2.2 µF*	820 nF	*220 µF*	*1.0 µF*	1.5 µF	100 µF	*2.2 µF*	3.3 µF	*220 µF*	1.0 µF	3.9 µF	*47 µF*	1.2 µF	4.7 µF	33 µF	1.5 µF	6.8 µF	39 µF	6
	7	*2.2 µF*	820 nF	*220 µF*	*1.2 µF*	1.8 µF	120 µF	*2.7 µF*	3.9 µF	*270 µF*	1.2 µF	4.7 µF	*56 µF*	1.5 µF	5.6 µF	33 µF	1.8 µF	6.8 µF	47 µF	7
	8	*2.7 µF*	1.0 µF	*270 µF*	*1.5 µF*	2.2 µF	150 µF	*2.7 µF*	4.7 µF	*270 µF*	1.2 µF	4.7 µF	*68 µF*	1.8 µF	6.8 µF	39 µF	2.2 µF	8.2 µF	56 µF	8
	9	*3.3 µF*	1.2 µF	*330 µF*	*1.5 µF*	2.2 µF	150 µF	*3.3 µF*	5.6 µF	*330 µF*	1.5 µF	5.6 µF	*68 µF*	1.8 µF	6.8 µF	47 µF	2.7 µF	10 µF	56 µF	9
	10	*3.3 µF*	1.2 µF	*330 µF*	*1.5 µF*	2.7 µF	150 µF	*3.3 µF*	5.6 µF	*330 µF*	1.5 µF	5.6 µF	*68 µF*	2.2 µF	8.2 µF	47 µF	2.7 µF	10 µF	68 µF	10
50V	2	*560 nF*	180 nF	*39 µF*	*220 nF*	390 nF	*6.8 µF*	*470 nF*	1.0 µF	*47 µF*	270 nF	1.0 µF	*10 µF*	330 nF	1.2 µF	8.2 µF	470 nF	1.8 µF	12 µF	2
	3	*560 nF*	330 nF	*82 µF*	*390 nF*	680 nF	*12 µF*	*820 nF*	1.5 µF	*82 µF*	470 nF	1.8 µF	*18 µF*	680 nF	2.7 µF	15 µF	680 nF	2.7 µF	18 µF	3
	4	*820 nF*	470 nF	*120 µF*	*560 nF*	1.0 µF	*18 µF*	*1.2 µF*	2.2 µF	*120 µF*	680 nF	2.7 µF	*27 µF*	820 nF	3.3 µF	18 µF	1.2 µF	4.7 µF	27 µF	4
	5	*1.2 µF*	560 nF	*150 µF*	*820 nF*	1.2 µF	*27 µF*	*1.8 µF*	2.7 µF	*180 µF*	680 nF	2.7 µF	*39 µF*	1.0 µF	3.9 µF	22 µF	1.2 µF	5.6 µF	33 µF	5
	6	*1.5 µF*	680 nF	*220 µF*	*1.0 µF*	1.5 µF	*33 µF*	*2.2 µF*	3.3 µF	*220 µF*	1.0 µF	3.9 µF	*47 µF*	1.2 µF	4.7 µF	33 µF	1.5 µF	6.8 µF	39 µF	6
	7	*1.8 µF*	820 nF	*220 µF*	*1.2 µF*	1.8 µF	*39 µF*	*2.7 µF*	3.9 µF	*270 µF*	1.2 µF	4.7 µF	*56 µF*	1.5 µF	5.6 µF	33 µF	1.8 µF	6.8 µF	47 µF	7
	8	*1.8 µF*	1.0 µF	*270 µF*	*1.5 µF*	2.2 µF	*47 µF*	*2.7 µF*	4.7 µF	*270 µF*	1.2 µF	4.7 µF	*68 µF*	1.8 µF	6.8 µF	39 µF	2.2 µF	8.2 µF	56 µF	8
	9	*2.2 µF*	1.0 µF	*330 µF*	*1.5 µF*	2.2 µF	*47 µF*	*3.3 µF*	5.6 µF	*330 µF*	1.5 µF	5.6 µF	*68 µF*	1.8 µF	6.8 µF	47 µF	2.7 µF	10 µF	56 µF	9
	10	*2.2 µF*	1.2 µF	*330 µF*	*1.5 µF*	2.7 µF	*47 µF*	*3.3 µF*	5.6 µF	*330 µF*	1.5 µF	5.6 µF	*68 µF*	2.2 µF	8.2 µF	47 µF	2.7 µF	10 µF	68 µF	10
100V	2	*390 nF*	180 nF	*18 µF*	*150 nF*	390 nF	*4.7 µF*	*330 nF*	1.0 µF	*22 µF*	270 nF	1.0 µF	*10 µF*	330 nF	1.2 µF	8.2 µF	470 nF	1.8 µF	12 µF	2
	3	*390 nF*	330 nF	*39 µF*	*270 nF*	680 nF	*8.2 µF*	*560 nF*	1.5 µF	*39 µF*	470 nF	1.8 µF	*18 µF*	680 nF	2.7 µF	15 µF	680 nF	2.7 µF	18 µF	3
	4	*560 nF*	470 nF	*56 µF*	*390 nF*	1.0 µF	*12 µF*	*820 nF*	2.2 µF	*56 µF*	680 nF	2.7 µF	*27 µF*	820 nF	3.3 µF	18 µF	1.2 µF	4.7 µF	27 µF	4
	5	*680 nF*	560 nF	*68 µF*	*560 nF*	1.2 µF	*18 µF*	*1.2 µF*	2.7 µF	*82 µF*	680 nF	2.7 µF	*39 µF*	1.0 µF	3.9 µF	22 µF	1.2 µF	5.6 µF	33 µF	5
	6	*1.0 µF*	680 nF	*100 µF*	*680 nF*	1.5 µF	*22 µF*	*1.5 µF*	3.3 µF	*100 µF*	1.0 µF	3.9 µF	*47 µF*	1.2 µF	4.7 µF	33 µF	1.5 µF	6.8 µF	39 µF	6
	7	*1.2 µF*	820 nF	*120 µF*	*820 nF*	1.8 µF	*27 µF*	*1.8 µF*	3.9 µF	*120 µF*	1.2 µF	4.7 µF	*56 µF*	1.5 µF	5.6 µF	33 µF	1.8 µF	6.8 µF	47 µF	7
	8	*1.2 µF*	1.0 µF	*120 µF*	*1.0 µF*	2.2 µF	*27 µF*	*2.2 µF*	4.7 µF	*150 µF*	1.2 µF	4.7 µF	*68 µF*	1.8 µF	6.8 µF	39 µF	2.2 µF	8.2 µF	56 µF	8
	9	*1.5 µF*	1.0 µF	*150 µF*	*1.2 µF*	2.2 µF	*33 µF*	*2.2 µF*	5.6 µF	*150 µF*	1.5 µF	5.6 µF	*68 µF*	1.8 µF	6.8 µF	47 µF	2.7 µF	10 µF	56 µF	9
	10	*1.5 µF*	1.2 µF	*150 µF*	*1.2 µF*	2.2 µF	*33 µF*	*2.2 µF*	5.6 µF	*150 µF*	1.5 µF	5.6 µF	*68 µF*	2.2 µF	8.2 µF	47 µF	2.7 µF	10 µF	68 µF	10
200V	2	*180 nF*	560 nF	3.3 µF	*100 nF*	560 nF	3.3 µF	*150 nF*	1.2 µF	8.2 µF	270 nF	1.0 µF	6.8 µF	330 nF	1.2 µF	8.2 µF	470 nF	1.8 µF	12 µF	2
	3	*180 nF*	820 nF	4.7 µF	*180 nF*	820 nF	4.7 µF	*270 nF*	1.8 µF	12 µF	470 nF	1.8 µF	12 µF	680 nF	2.7 µF	15 µF	680 nF	2.7 µF	18 µF	3
	4	*270 nF*	1.0 µF	6.8 µF	*270 nF*	1.0 µF	6.8 µF	*390 nF*	2.7 µF	15 µF	560 nF	2.7 µF	15 µF	820 nF	3.3 µF	18 µF	1.2 µF	4.7 µF	27 µF	4
	5	*330 nF*	1.2 µF	8.2 µF	*390 nF*	1.2 µF	8.2 µF	*560 nF*	3.3 µF	18 µF	680 nF	3.3 µF	22 µF	1.0 µF	4.7 µF	27 µF	1.2 µF	5.6 µF	33 µF	5
	6	*470 nF*	1.5 µF	10 µF	*470 nF*	1.5 µF	10 µF	*680 nF*	3.9 µF	22 µF	1.0 µF	3.9 µF	27 µF	1.2 µF	4.7 µF	33 µF	1.5 µF	6.8 µF	39 µF	6
	7	*560 nF*	1.8 µF	12 µF	*560 nF*	1.8 µF	12 µF	*820 nF*	4.7 µF	27 µF	1.2 µF	4.7 µF	27 µF	1.5 µF	6.8 µF	39 µF	1.8 µF	8.2 µF	47 µF	7
	8	*560 nF*	2.2 µF	12 µF	*680 nF*	2.2 µF	15 µF	*1.0 µF*	4.7 µF	33 µF	1.2 µF	5.6 µF	33 µF	1.8 µF	6.8 µF	39 µF	2.2 µF	8.2 µF	56 µF	8
	9	*680 nF*	2.2 µF	15 µF	*680 nF*	2.2 µF	15 µF	*1.2 µF*	5.6 µF	33 µF	1.5 µF	5.6 µF	39 µF	1.8 µF	8.2 µF	47 µF	2.7 µF	10 µF	56 µF	9
	10	*680 nF*	2.7 µF	18 µF	*680 nF*	2.7 µF	18 µF	*1.2 µF*	5.6 µF	39 µF	1.5 µF	6.8 µF	47 µF	2.2 µF	8.2 µF	56 µF	2.7 µF	12 µF	68 µF	10
500V	2	82 nF	150 nF	680 nF	100 nF	180 nF	680 nF	220 nF	390 nF	1.5 µF	270 nF	470 nF	2.2 µF	330 nF	820 nF	3.9 µF	470 nF	1.2 µF	5.6 µF	2
	3	150 nF	330 nF	1.0 µF	150 nF	330 nF	1.0 µF	390 nF	820 nF	2.2 µF	470 nF	1.0 µF	3.3 µF	680 nF	1.8 µF	5.6 µF	680 nF	1.8 µF	8.2 µF	3
	4	220 nF	390 nF	1.8 µF	180 nF	390 nF	1.8 µF	390 nF	1.0 µF	3.9 µF	560 nF	1.2 µF	4.7 µF	820 nF	2.2 µF	8.2 µF	1.2 µF	3.3 µF	12 µF	4
	5	270 nF	560 nF	1.8 µF	270 nF	470 nF	2.2 µF	560 nF	1.2 µF	4.7 µF	680 nF	1.5 µF	5.6 µF	1.2 µF	2.7 µF	10 µF	1.2 µF	3.9 µF	15 µF	5
	6	270 nF	680 nF	2.2 µF	330 nF	680 nF	2.7 µF	680 nF	1.5 µF	5.6 µF	820 nF	1.8 µF	6.8 µF	1.2 µF	3.3 µF	12 µF	1.5 µF	4.7 µF	18 µF	6
	7	330 nF	680 nF	2.7 µF	390 nF	680 nF	3.3 µF	820 nF	1.8 µF	6.8 µF	1.0 µF	2.2 µF	8.2 µF	1.5 µF	3.9 µF	15 µF	2.2 µF	5.6 µF	22 µF	7
	8	390 nF	820 nF	3.3 µF	390 nF	820 nF	3.3 µF	1.0 µF	2.2 µF	8.2 µF	1.2 µF	2.7 µF	10 µF	1.8 µF	3.9 µF	18 µF	2.2 µF	6.8 µF	27 µF	8
	9	470 nF	1.0 µF	3.9 µF	470 nF	1.0 µF	3.9 µF	1.0 µF	2.2 µF	8.2 µF	1.2 µF	2.7 µF	12 µF	2.2 µF	4.7 µF	18 µF	2.7 µF	6.8 µF	27 µF	9
	10	560 nF	1.0 µF	4.7 µF	560 nF	1.0 µF	3.9 µF	1.2 µF	2.2 µF	10 µF	1.5 µF	3.3 µF	12 µF	2.2 µF	5.6 µF	22 µF	2.7 µF	8.2 µF	33 µF	10
630V	2	68 nF	120 nF	470 nF	47 nF	120 nF	560 nF	120 nF	270 nF	1.2 µF	150 nF	390 nF	1.5 µF	270 nF	680 nF	2.7 µF	390 nF	1.0 µF	3.9 µF	2
	3	100 nF	180 nF	820 nF	100 nF	180 nF	820 nF	220 nF	470 nF	1.8 µF	270 nF	560 nF	2.2 µF	470 nF	1.0 µF	3.9 µF	560 nF	1.5 µF	5.6 µF	3
	4	150 nF	270 nF	1.0 µF	120 nF	270 nF	1.0 µF	270 nF	560 nF	2.2 µF	330 nF	680 nF	3.3 µF	680 nF	1.2 µF	5.6 µF	1.0 µF	1.8 µF	8.2 µF	4
	5	150 nF	330 nF	1.2 µF	180 nF	330 nF	1.2 µF	390 nF	680 nF	3.3 µF	470 nF	1.0 µF	3.9 µF	820 nF	1.8 µF	6.8 µF	1.2 µF	2.7 µF	10 µF	5
	6	220 nF	470 nF	1.5 µF	180 nF	390 nF	1.5 µF	470 nF	820 nF	3.9 µF	560 nF	1.2 µF	4.7 µF	1.0 µF	1.8 µF	8.2 µF	1.2 µF	2.7 µF	12 µF	6
	7	220 nF	470 nF	1.8 µF	270 nF	560 nF	1.8 µF	560 nF	1.2 µF	3.9 µF	680 nF	1.5 µF	5.6 µF	1.2 µF	2.7 µF	10 µF	1.8 µF	3.3 µF	15 µF	7
	8	270 nF	560 nF	2.2 µF	270 nF	560 nF	2.2 µF	680 nF	1.2 µF	4.7 µF	820 nF	1.8 µF	5.6 µF	1.5 µF	2.7 µF	10 µF	1.8 µF	4.7 µF	15 µF	8
	9	330 nF	560 nF	2.2 µF	330 nF	680 nF	2.2 µF	680 nF	1.5 µF	5.6 µF	1.0 µF	1.8 µF	6.8 µF	1.8 µF	3.3 µF	12 µF	2.2 µF	4.7 µF	18 µF	9
	10	330 nF	680 nF	2.7 µF	330 nF	680 nF	2.7 µF	820 nF	1.8 µF	5.6 µF	1.0 µF	2.2 µF	8.2 µF	1.8 µF	3.9 µF	12 µF	2.7 µF	5.6 µF	22 µF	10
1000V	2	27 nF	56 nF	180 nF	33 nF	39 nF	120 nF	68 nF	100 nF	330 nF	82 nF	120 nF	470 nF	150 nF	220 nF	820 nF	220 nF	330 nF	1.2 µF	2
	3	47 nF	82 nF	270 nF	47 nF	82 nF	270 nF	100 nF	180 nF	330 nF	120 nF	220 nF	470 nF	220 nF	390 nF	820 nF	390 nF	680 nF	1.2 µF	3
	4	56 nF	120 nF	330 nF	68 nF	120 nF	390 nF	150 nF	270 nF	680 nF	180 nF	330 nF	820 nF	330 nF	680 nF	1.5 µF	470 nF	1.0 µF	2.2 µF	4
	5	68 nF	150 nF	470 nF	82 nF	120 nF	390 nF	180 nF	270 nF	1.0 µF	220 nF	330 nF	1.2 µF	390 nF	680 nF	2.2 µF	560 nF	1.0 µF	3.9 µF	5
	6	82 nF	180 nF	560 nF	100 nF	180 nF	470 nF	220 nF	390 nF	1.0 µF	270 nF	470 nF	1.2 µF	470 nF	820 nF	2.2 µF	680 nF	1.2 µF	3.9 µF	6
	7	100 nF	220 nF	560 nF	100 nF	220 nF	680 nF	270 nF	470 nF	1.5 µF	330 nF	560 nF	1.8 µF	560 nF	1.0 µF	3.3 µF	820 nF	1.5 µF	4.7 µF	7
	8	120 nF	220 nF	680 nF	120 nF	270 nF	820 nF	270 nF	560 nF	1.8 µF	330 nF	680 nF	2.2 µF	680 nF	1.2 µF	3.9 µF	1.0 µF	1.8 µF	5.6 µF	8
	9	120 nF	270 nF	820 nF	150 nF	270 nF	820 nF	330 nF	680 nF	1.8 µF	390 nF	820 nF	2.2 µF	680 nF	1.5 µF	3.9 µF	1.0 µF	1.8 µF	5.6 µF	9
	10	150 nF	270 nF	820 nF	150 nF	270 nF	820 nF	390 nF	680 nF	2.2 µF	470 nF	820 nF	2.7 µF	820 nF	1.5 µF	4.7 µF	1.2 µF	2.2 µF	6.8 µF	10
1500V	2	12 nF	18 nF	56 nF	8.2 nF	12 nF	39 nF	18 nF	33 nF	100 nF	27 nF	47 nF	120 nF	47 nF	82 nF	220 nF	68 nF	120 nF	330 nF	2
	3	18 nF	27 nF	82 nF	18 nF	22 nF	82 nF	39 nF	33 nF	180 nF	47 nF	47 nF	220 nF	82 nF	82 nF	470 nF	120 nF	120 nF	680 nF	3
	4	22 nF	33 nF	120 nF	27 nF	39 nF	120 nF	39 nF	68 nF	270 nF	47 nF	82 nF	390 nF	82 nF	150 nF	680 nF	120 nF	220 nF	1.0 µF	4
	5	27 nF	39 nF	150 nF	27 nF	39 nF	150 nF	56 nF	100 nF	390 nF	82 nF	120 nF	470 nF	120 nF	220 nF	1.0 µF	220 nF	330 nF	1.5 µF	5
	6	33 nF	47 nF	180 nF	33 nF	47 nF	180 nF	82 nF	100 nF	470 nF	100 nF	120 nF	560 nF	180 nF	220 nF	1.0 µF	270 nF	330 nF	1.5 µF	6
	7	39 nF	56 nF	180 nF	39 nF	56 nF	180 nF	100 nF	150 nF	470 nF	120 nF	180 nF	560 nF	220 nF	330 nF	1.2 µF	330 nF	470 nF	1.8 µF	7
	8	47 nF	68 nF	220 nF	47 nF	68 nF	220 nF	100 nF	150 nF	560 nF	120 nF	180 nF	680 nF	220 nF	330 nF	1.5 µF	330 nF	470 nF	2.2 µF	8
	9	47 nF	68 nF	270 nF	47 nF	68 nF	270 nF	120 nF	180 nF	680 nF	150 nF	220 nF	820 nF	270 nF	390 nF	1.5 µF	390 nF	560 nF	2.7 µF	9
	10	56 nF	82 nF	270 nF	56 nF	82 nF	270 nF	150 nF	220 nF	820 nF	180 nF	270 nF	1.0 µF	330 nF	470 nF	1.8 µF	470 nF	680 nF	2.7 µF	10
2000V	2	5.6 nF	10 nF	33 nF	3.9 nF	5.6 nF	22 nF	12 nF	15 nF	68 nF	15 nF	18 nF	82 nF	27 nF	39 nF	180 nF	39 nF	56 nF	270 nF	2
	3	8.2 nF	15 nF	47 nF	8.2 nF	12 nF	47 nF	12 nF	27 nF	68 nF	15 nF	39 nF	82 nF	27 nF	68 nF	180 nF	39 nF	120 nF	270 nF	3
	4	12 nF	18 nF	56 nF	12 nF	18 nF	68 nF	27 nF	47 nF	120 nF	33 nF	56 nF	180 nF	56 nF	120 nF	330 nF	82 nF	180 nF	560 nF	4
	5	15 nF	27 nF	82 nF	12 nF	22 nF	68 nF	39 nF	56 nF	220 nF	47 nF	82 nF	270 nF	82 nF	150 nF	470 nF	120 nF	220 nF	820 nF	5
	6	18 nF	27 nF	100 nF	18 nF	27 nF	82 nF	39 nF	68 nF	220 nF	47 nF	100 nF	270 nF	82 nF	180 nF	470 nF	120 nF	270 nF	820 nF	6
	7	18 nF	33 nF	100 nF	22 nF	33 nF	100 nF	47 nF	82 nF	270 nF	68 nF	120 nF	330 nF	120 nF	220 nF	680 nF	180 nF	330 nF	1.0 µF	7
	8	22 nF	39 nF	120 nF	27 nF	39 nF	120 nF	47 nF	100 nF	330 nF	68 nF	120 nF	470 nF	120 nF	270 nF	820 nF	180 nF	390 nF	1.2 µF	8
	9	27 nF	47 nF	150 nF	27 nF	47 nF	120 nF	68 nF	120 nF	330 nF	82 nF	150 nF	470 nF	150 nF	270 nF	820 nF	220 nF	390 nF	1.2 µF	9
	10	27 nF	47 nF	150 nF	27 nF	56 nF	150 nF	82 nF	120 nF	390 nF	100 nF	180 nF	560 nF	180 nF	270 nF	1.0 µF	270 nF	470 nF	1.5 µF	10

1) Max Values in italic obtained with BME partS

QUICK REFERENCE DATA (Max capacitance in µF)

	Leads	4040			5440			5550			6560			6080			8060			Leads
		NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	
min		1.8 nF	3.3 nF	15 nF	3.9 nF	3.9 nF	22nF	3.3 nF	5.6 nF	27 nF	4.7 nF	8.2 nF	39 nF	5.6 nF	10 nF	47 nF	5.6 nF	10 nF	47 nF	
100V	2	470 nF	1.8 µF	12 µF	330 nF	1.2 µF	8.2 µF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	680 nF	2.7 µF	18 µF	680 nF	2.7 µF	15 µF	820 nF	3.3 µF	18 µF	1.0 µF	3.9 µF	27 µF	-	-	-	1.2 µF	4.7 µF	27 µF	3
	4	1.0 µF	3.9 µF	22 µF	1.0 µF	3.9 µF	22 µF	1.2 µF	4.7 µF	27 µF	1.5 µF	5.6 µF	39 µF	1.8 µF	6.8 µF	47 µF	1.8 µF	6.8 µF	47 µF	4
	5	1.2 µF	4.7 µF	33 µF	1.2 µF	4.7 µF	33 µF	1.5 µF	5.6 µF	39 µF	2.2 µF	8.2 µF	47 µF	2.7 µF	10 µF	56 µF	2.7 µF	10 µF	56 µF	5
	6	1.5 µF	5.6 µF	39 µF	1.5 µF	5.6 µF	39 µF	1.8 µF	8.2 µF	47 µF	2.7 µF	10 µF	68 µF	3.3 µF	12 µF	82 µF	3.3 µF	12 µF	82 µF	6
	7	1.8 µF	6.8 µF	39 µF	1.8 µF	6.8 µF	47 µF	2.2 µF	8.2 µF	56 µF	3.3 µF	12 µF	82 µF	3.9 µF	15 µF	82 µF	3.9 µF	15 µF	82 µF	7
	8	1.8 µF	8.2 µF	47 µF	2.2 µF	8.2 µF	56 µF	2.7 µF	10 µF	68 µF	3.9 µF	15 µF	82 µF	4.7 µF	18 µF	100 µF	4.7 µF	18 µF	100 µF	8
	9	2.2 µF	8.2 µF	56 µF	2.7 µF	10 µF	56 µF	3.3 µF	12 µF	82 µF	3.9 µF	15 µF	100 µF	4.7 µF	18 µF	120 µF	4.7 µF	18 µF	120 µF	9
	10	2.7 µF	10 µF	56 µF	2.7 µF	12 µF	68 µF	3.3 µF	12 µF	82 µF	4.7 µF	18 µF	120 µF	5.6 µF	22 µF	120 µF	5.6 µF	22 µF	120 µF	10
200V	2	470 nF	1.8 µF	12 µF	330 nF	2.7 µF	15 µF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	680 nF	2.7 µF	18 µF	680 nF	3.9 µF	22 µF	820 nF	4.7 µF	27 µF	1.0 µF	5.6 µF	39 µF	-	-	-	1.2 µF	6.8 µF	47 µF	3
	4	1.0 µF	3.9 µF	22 µF	1.0 µF	4.7 µF	33 µF	1.2 µF	5.6 µF	39 µF	1.5 µF	8.2 µF	47 µF	1.8 µF	10 µF	56 µF	1.8 µF	10 µF	56 µF	4
	5	1.2 µF	4.7 µF	33 µF	1.2 µF	5.6 µF	39 µF	1.5 µF	8.2 µF	47 µF	2.2 µF	10 µF	68 µF	2.7 µF	12 µF	82 µF	2.7 µF	12 µF	82 µF	5
	6	1.5 µF	5.6 µF	39 µF	1.5 µF	6.8 µF	47 µF	1.8 µF	8.2 µF	56 µF	2.7 µF	12 µF	82 µF	3.3 µF	15 µF	82 µF	3.3 µF	15 µF	82 µF	6
	7	1.8 µF	6.8 µF	39 µF	1.8 µF	8.2 µF	56 µF	2.2 µF	10 µF	68 µF	3.3 µF	15 µF	82 µF	3.9 µF	18 µF	100 µF	3.9 µF	18 µF	100 µF	7
	8	1.8 µF	8.2 µF	56 µF	2.2 µF	10 µF	56 µF	2.7 µF	12 µF	82 µF	3.9 µF	15 µF	100 µF	4.7 µF	18 µF	120 µF	4.7 µF	18 µF	120 µF	8
	9	2.2 µF	10 µF	56 µF	2.7 µF	12 µF	68 µF	3.3 µF	12 µF	82 µF	3.9 µF	18 µF	120 µF	4.7 µF	22 µF	120 µF	4.7 µF	22 µF	120 µF	9
	10	2.7 µF	10 µF	68 µF	2.7 µF	12 µF	82 µF	3.3 µF	15 µF	100 µF	4.7 µF	22 µF	120 µF	5.6 µF	22 µF	150 µF	5.6 µF	22 µF	150 µF	10
500V	2	470 nF	1.5 µF	5.6 µF	680 nF	1.8 µF	8.2 µF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	680 nF	2.2 µF	8.2 µF	1.0 µF	2.7 µF	12 µF	1.2 µF	3.3 µF	15 µF	1.5 µF	4.7 µF	22 µF	-	-	-	1.8 µF	5.6 µF	27 µF	3
	4	1.0 µF	2.7 µF	12 µF	1.2 µF	3.9 µF	15 µF	1.5 µF	4.7 µF	22 µF	2.2 µF	6.8 µF	27 µF	2.7 µF	8.2 µF	33 µF	2.7 µF	8.2 µF	33 µF	4
	5	1.2 µF	3.3 µF	15 µF	1.5 µF	4.7 µF	18 µF	1.8 µF	5.6 µF	27 µF	2.7 µF	8.2 µF	33 µF	3.3 µF	10 µF	47 µF	3.3 µF	10 µF	47 µF	5
	6	1.5 µF	3.9 µF	18 µF	1.8 µF	5.6 µF	22 µF	2.2 µF	6.8 µF	33 µF	3.3 µF	10 µF	39 µF	3.9 µF	12 µF	56 µF	3.9 µF	12 µF	56 µF	6
	7	1.8 µF	4.7 µF	22 µF	2.2 µF	6.8 µF	27 µF	2.7 µF	8.2 µF	33 µF	3.9 µF	12 µF	47 µF	4.7 µF	15 µF	56 µF	4.7 µF	15 µF	56 µF	7
	8	2.2 µF	5.6 µF	27 µF	2.7 µF	6.8 µF	33 µF	3.3 µF	10 µF	39 µF	3.9 µF	12 µF	56 µF	4.7 µF	15 µF	68 µF	4.7 µF	15 µF	68 µF	8
	9	2.7 µF	6.8 µF	27 µF	2.7 µF	8.2 µF	33 µF	3.3 µF	10 µF	47 µF	4.7 µF	15 µF	68 µF	5.6 µF	18 µF	82 µF	5.6 µF	18 µF	82 µF	9
	10	2.7 µF	8.2 µF	33 µF	3.3 µF	10 µF	39 µF	3.9 µF	12 µF	47 µF	5.6 µF	18 µF	68 µF	5.6 µF	22 µF	82 µF	5.6 µF	22 µF	82 µF	10
630V	2	390 nF	1.0 µF	4.7 µF	560 nF	1.5 µF	5.6 µF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	560 nF	1.5 µF	6.8 µF	820 nF	2.2 µF	8.2 µF	1.0 µF	2.7 µF	12 µF	1.5 µF	3.9 µF	15 µF	-	-	-	1.8 µF	4.7 µF	18 µF	3
	4	820 nF	2.2 µF	8.2 µF	1.2 µF	2.7 µF	12 µF	1.5 µF	3.9 µF	15 µF	1.8 µF	5.6 µF	22 µF	2.2 µF	6.8 µF	27 µF	2.2 µF	6.8 µF	27 µF	4
	5	1.0 µF	2.7 µF	12 µF	1.5 µF	3.9 µF	15 µF	1.8 µF	4.7 µF	18 µF	2.7 µF	6.8 µF	27 µF	3.3 µF	8.2 µF	33 µF	3.3 µF	8.2 µF	33 µF	5
	6	1.2 µF	3.3 µF	12 µF	1.8 µF	4.7 µF	18 µF	2.2 µF	5.6 µF	22 µF	2.7 µF	8.2 µF	33 µF	3.9 µF	10 µF	39 µF	3.9 µF	10 µF	39 µF	6
	7	1.5 µF	3.9 µF	15 µF	1.8 µF	5.6 µF	22 µF	2.7 µF	6.8 µF	27 µF	3.3 µF	10 µF	39 µF	3.9 µF	12 µF	47 µF	3.9 µF	12 µF	47 µF	7
	8	1.8 µF	4.7 µF	18 µF	2.2 µF	5.6 µF	22 µF	2.7 µF	6.8 µF	33 µF	3.9 µF	10 µF	39 µF	4.7 µF	12 µF	56 µF	4.7 µF	12 µF	56 µF	8
	9	2.2 µF	5.6 µF	18 µF	2.7 µF	6.8 µF	27 µF	3.3 µF	8.2 µF	33 µF	4.7 µF	12 µF	47 µF	5.6 µF	15 µF	56 µF	5.6 µF	15 µF	56 µF	9
	10	2.2 µF	5.6 µF	22 µF	2.7 µF	6.8 µF	27 µF	3.3 µF	10 µF	39 µF	4.7 µF	12 µF	56 µF	5.6 µF	15 µF	68 µF	5.6 µF	15 µF	68 µF	10
1000V	2	270 nF	330 nF	1.2 µF	330 nF	470 nF	1.8 µF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	390 nF	680 nF	1.2 µF	560 nF	1.0 µF	1.8 µF	680 nF	1.2 µF	2.2 µF	1.0 µF	1.8 µF	3.3 µF	-	-	-	1.2 µF	2.2 µF	3.9 µF	3
	4	560 nF	1.0 µF	2.7 µF	680 nF	1.5 µF	3.3 µF	820 nF	1.8 µF	4.7 µF	1.2 µF	2.7 µF	6.8 µF	1.5 µF	3.3 µF	8.2 µF	1.5 µF	3.3 µF	8.2 µF	4
	5	680 nF	1.0 µF	3.9 µF	820 nF	1.5 µF	5.6 µF	1.2 µF	1.8 µF	6.8 µF	1.5 µF	2.7 µF	10 µF	1.8 µF	3.3 µF	12 µF	1.8 µF	3.3 µF	12 µF	5
	6	820 nF	1.5 µF	3.9 µF	1.0 µF	1.8 µF	5.6 µF	1.2 µF	2.2 µF	6.8 µF	1.8 µF	3.3 µF	10 µF	2.2 µF	3.9 µF	12 µF	2.2 µF	3.9 µF	12 µF	6
	7	820 nF	1.8 µF	5.6 µF	1.2 µF	2.2 µF	6.8 µF	1.5 µF	2.7 µF	8.2 µF	2.2 µF	3.9 µF	12 µF	2.7 µF	4.7 µF	15 µF	2.7 µF	4.7 µF	15 µF	7
	8	1.0 µF	2.2 µF	6.8 µF	1.5 µF	2.7 µF	8.2 µF	1.8 µF	3.3 µF	12 µF	2.7 µF	4.7 µF	15 µF	3.3 µF	5.6 µF	18 µF	3.3 µF	5.6 µF	18 µF	8
	9	1.2 µF	2.2 µF	6.8 µF	1.5 µF	2.7 µF	8.2 µF	1.8 µF	3.3 µF	12 µF	2.7 µF	4.7 µF	15 µF	3.3 µF	5.6 µF	18 µF	3.3 µF	5.6 µF	18 µF	9
	10	1.2 µF	2.2 µF	8.2 µF	1.8 µF	3.3 µF	10 µF	2.2 µF	3.9 µF	12 µF	3.3 µF	5.6 µF	18 µF	3.9 µF	6.8 µF	22 µF	3.9 µF	6.8 µF	22 µF	10
1500V	2	68 nF	120 nF	390 nF	100 nF	180 nF	560 nF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	150 nF	120 nF	820 nF	180 nF	180 nF	1.0 µF	270 nF	220 nF	1.2 µF	330 nF	330 nF	1.8 µF	-	-	-	470 nF	390 nF	2.2 µF	3
	4	150 nF	270 nF	1.2 µF	180 nF	330 nF	1.5 µF	270 nF	470 nF	1.8 µF	330 nF	560 nF	2.7 µF	470 nF	820 nF	3.3 µF	470 nF	820 nF	3.3 µF	4
	5	220 nF	390 nF	1.5 µF	270 nF	470 nF	2.2 µF	390 nF	680 nF	2.7 µF	560 nF	820 nF	3.9 µF	680 nF	1.2 µF	4.7 µF	680 nF	1.2 µF	4.7 µF	5
	6	270 nF	390 nF	1.5 µF	390 nF	470 nF	2.2 µF	470 nF	680 nF	2.7 µF	680 nF	820 nF	3.9 µF	820 nF	1.2 µF	4.7 µF	820 nF	1.2 µF	4.7 µF	6
	7	390 nF	470 nF	1.8 µF	470 nF	680 nF	2.7 µF	680 nF	820 nF	3.3 µF	820 nF	1.2 µF	4.7 µF	1.0 µF	1.5 µF	5.6 µF	1.0 µF	1.5 µF	5.6 µF	7
	8	390 nF	470 nF	2.2 µF	470 nF	680 nF	3.3 µF	680 nF	820 nF	3.9 µF	820 nF	1.2 µF	5.6 µF	1.0 µF	1.5 µF	6.8 µF	1.0 µF	1.5 µF	6.8 µF	8
	9	470 nF	680 nF	2.7 µF	560 nF	820 nF	3.9 µF	820 nF	1.0 µF	4.7 µF	1.0 µF	1.5 µF	6.8 µF	1.2 µF	1.8 µF	8.2 µF	1.2 µF	1.8 µF	8.2 µF	9
	10	560 nF	820 nF	3.3 µF	680 nF	1.0 µF	3.9 µF	820 nF	1.2 µF	5.6 µF	1.2 µF	1.8 µF	6.8 µF	1.5 µF	2.2 µF	8.2 µF	1.5 µF	2.2 µF	8.2 µF	10
2000V	2	47 nF	56 nF	270 nF	56 nF	82 nF	390 nF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	47 nF	120 nF	270 nF	56 nF	150 nF	390 nF	82 nF	220 nF	470 nF	100 nF	270 nF	680 nF	-	-	-	120 nF	390 nF	820 nF	3
	4	82 nF	180 nF	560 nF	120 nF	220 nF	680 nF	150 nF	330 nF	1.0 µF	220 nF	470 nF	1.2 µF	270 nF	560 nF	1.8 µF	270 nF	560 nF	1.8 µF	4
	5	120 nF	220 nF	820 nF	180 nF	330 nF	1.2 µF	220 nF	390 nF	1.5 µF	330 nF	560 nF	1.8 µF	390 nF	680 nF	2.7 µF	390 nF	680 nF	2.7 µF	5
	6	120 nF	330 nF	820 nF	180 nF	390 nF	1.2 µF	220 nF	560 nF	1.5 µF	330 nF	680 nF	1.8 µF	390 nF	820 nF	2.7 µF	390 nF	820 nF	2.7 µF	6
	7	180 nF	390 nF	1.2 µF	220 nF	470 nF	1.5 µF	330 nF	560 nF	1.8 µF	470 nF	820 nF	2.7 µF	560 nF	1.0 µF	3.3 µF	560 nF	1.0 µF	3.3 µF	7
	8	180 nF	390 nF	1.5 µF	220 nF	560 nF	1.8 µF	330 nF	680 nF	2.2 µF	470 nF	1.0 µF	3.3 µF	560 nF	1.2 µF	3.9 µF	560 nF	1.2 µF	3.9 µF	8
	9	220 nF	390 nF	1.5 µF	270 nF	560 nF	1.8 µF	390 nF	680 nF	2.2 µF	560 nF	1.0 µF	3.3 µF	680 nF	1.2 µF	3.9 µF	680 nF	1.2 µF	3.9 µF	9
	10	270 nF	470 nF	1.8 µF	390 nF	680 nF	2.2 µF	470 nF	820 nF	2.7 µF	680 nF	1.2 µF	3.9 µF	820 nF	1.5 µF	4.7 µF	820 nF	1.5 µF	4.7 µF	10
3000V	2	12 nF	27 nF	100 nF	15 nF	33 nF	120 nF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	22 nF	27 nF	180 nF	33 nF	33 nF	270 nF	39 nF	47 nF	330 nF	56 nF	68 nF	470 nF	-	-	-	68 nF	82 nF	560 nF	3
	4	33 nF	56 nF	180 nF	47 nF	68 nF	270 nF	56 nF	82 nF	330 nF	82 nF	120 nF	470 nF	100 nF	150 nF	560 nF	100 nF	150 nF	560 nF	4
	5	47 nF	82 nF	270 nF	56 nF	100 nF	390 nF	82 nF	120 nF	470 nF	120 nF	180 nF	680 nF	120 nF	220 nF	820 nF	120 nF	220 nF	820 nF	5
	6	56 nF	82 nF	390 nF	82 nF	100 nF	560 nF	100 nF	120 nF	680 nF	150 nF	180 nF	1.0 µF	180 nF	220 nF	1.2 µF	180 nF	220 nF	1.2 µF	6
	7	68 nF	100 nF	390 nF	100 nF	150 nF	560 nF	120 nF	180 nF	680 nF	180 nF	270 nF	1.0 µF	220 nF	330 nF	1.2 µF	220 nF	330 nF	1.2 µF	7
	8	82 nF	100 nF	470 nF	100 nF	150 nF	680 nF	120 nF	180 nF	820 nF	180 nF	270 nF	1.2 µF	220 nF	330 nF	1.5 µF	220 nF	330 nF	1.5 µF	8
	9	100 nF	120 nF	560 nF	120 nF	180 nF	820 nF	150 nF	220 nF	1.0 µF	220 nF	330 nF	1.5 µF	270 nF	390 nF	1.8 µF	270 nF	390 nF	1.8 µF	9
	10	100 nF	150 nF	560 nF	120 nF	220 nF	820 nF	150 nF	270 nF	1.0 µF	220 nF	390 nF	1.5 µF	270 nF	470 nF	1.8 µF	270 nF	470 nF	1.8 µF	10
5000V	2	5.6 nF	10 nF	33 nF	6.8 nF	12 nF	47 nF	-	-	-	-	-	-	-	-	-	-	-	-	2
	3	5.6 nF	10 nF	33 nF	6.8 nF	12 nF	47 nF	8.2 nF	15 nF	56 nF	12 nF	22 nF	82 nF	-	-	-	15 nF	27 nF	100 nF	3
	4	10 nF	18 nF	68 nF	15 nF	27 nF	100 nF	18 nF	33 nF	120 nF	27 nF	47 nF	180 nF	33 nF	56 nF	220 nF	33 nF	56 nF	220 nF	4
	5	15 nF	27 nF	100 nF	22 nF	39 nF	150 nF	27 nF	47 nF	180 nF	39 nF	68 nF	270 nF	47 nF	82 nF	330 nF	47 nF	82 nF	330 nF	5
	6	15 nF	27 nF	100 nF	22 nF	39 nF	150 nF	27 nF	47 nF	180 nF	39 nF	68 nF	270 nF	47 nF	82 nF	330 nF	47 nF	82 nF	330 nF	6
	7	22 nF	39 nF	150 nF	27 nF	47 nF	180 nF	39 nF	68 nF	220 nF	56 nF	82 nF	330 nF	68 nF	100 nF	390 nF	68 nF	100 nF	390 nF	7
	8	22 nF	47 nF	150 nF	27 nF	56 nF	180 nF	39 nF	82 nF	220 nF	56 nF	120 nF	330 nF	68 nF	120 nF	390 nF	68 nF	120 nF	390 nF	8
	9	27 nF	47 nF	180 nF	39 nF	56 nF	220 nF	47 nF	82 nF	270 nF	68 nF	120 nF	390 nF	82 nF	120 nF	560 nF	82 nF	120 nF	560 nF	9
	10	33 nF	56 nF	220 nF	39 nF	68 nF	270 nF	56 nF	100 nF	390 nF	82 nF	120 nF	470 nF	100 nF	150 nF	680 nF	100 nF	150 nF	680 nF	10

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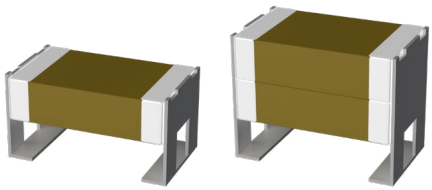
STACKED CAPACITOR High Compact

10V - 2000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- Smoothing signals
- Energy storage
- Converters, inverters



RoHS compliant

Pb

FEATURES

- Low ESR and ESL design
- Auto range based on AECQ -200 generic requirement
- Extended range based on commercial grade
- High Reliability Copper Berylium Lead Frame
- Available in Tin or SnPb Plating

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
NPO, X7R : - 55°C, + 125°C
X5R : - 55°C, + 85°C
Y5V : - 25°C, + 85°C

TEMPERATURE COEFFICIENT :
X7R : ± 15% with 0Vdc applied
X5R : ±15% with 0Vdc applied
Y5V : +30% -80% with 0Vdc applied

DISSIPATION FACTOR :
NP0 : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
: ≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 5% (10V), ≤ 3.5% (16V and 25V) and ≤ 2.5% (50V to 2000V)
X5R : ≤ 15% (6.3V), ≤ 10% (16V, 25V, 35V)
Y5V : ≤ 12.5% (16V)

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5U U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

ORDERING INFORMATION

SRH	D	1210	Y	106	K	Q	-	A	B	-
SERIE	CHIPS	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	LEAD FRAME	RANGE	PACKAGING	SPECIAL
SRH	S = 1 chip D = 2 chips	1210 1812 2220	A = NPO Y = X7R S = X5R V = Y5V	Expressed in picofarads (pF) The first two digits are significant, the third digit gives the number of noughts Example : 102 = 1 000pF	J = ± 5% (1 chip NPO) K = ± 10% (1 chip Class II/ 2 chips NPO) M = ± 20% (1 or 2 chips Class II)	Q = 10V J = 16 V X = 25 V A = 50 V U = 63 V B = 100 V P = 250 V E = 500 V F = 630 V G = 1000 V O = 1500 V H = 2000 V	- = Tin Plated N = SnPb Plated	A = AECQ E = Commercial	B = Reel	Dxx = Reliability parameters

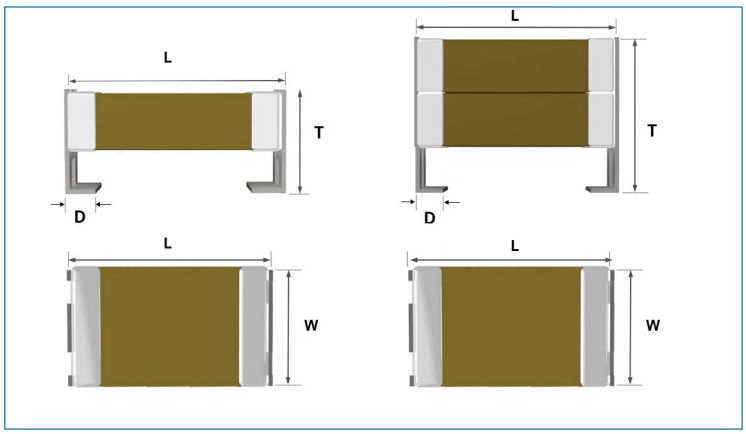
For any other size, voltage and tolerance please contact us.

DIMENSIONS J (In millimeters)

1 CHIP STACK	1210	1812	2220
Length (L)	3.50 ± 0.30	5.00 ± 0.45	6.00 ± 0.50
Width (W)	2.60 ± 0.30	3.5 ± 0.50	5.00 ± 0.50
Max Height std (T)	3.35 ± 0.10	2.90 ± 0.20	3.50 ± 0.30
Max Height alt (T)	3.20 ± 0.10	4.10 ± 0.20	4.10 ± 0.30
Lead Width (D)	0.80 ± 0.15	1.10 ± 0.30	1.60 ± 0.30

2 CHIPS STACK	1210	1812	2220
Length (L)	3.50 ± 0.30	5.00 ± 0.45	6.00 ± 0.50
Width (W)	2.60 ± 0.30	3.5 ± 0.50	5.00 ± 0.50
Max Height std (T)	6.15 ± 0.15	5.00 ± 0.5	5.00 ± 0.50
Max Height alt (T)	5.20 ± 0.15	7.20 ± 0.50	7.20 ± 0.50
Lead Width (D)	0.80 ± 0.15	1.10± 0.30	1.60 ± 0.30

Refere to Value Chart for Height std or Height alt



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VALUES CHART

SIZE			1210								1812								2220								
DIELECTRIC			X7R								X7R								X7R								
MAX AUTO			47 µF	47 µF	47 µF	22 µF	10 µF	1.5 µF	330 nF	330 nF	22 µF	22 µF	22 µF	10 µF	4.7 µF	1.5 µF	470 nF	220 nF	220 nF	47 µF	47 µF	22 µF	22 µF	22 µF	2.2 µF	1.2 µF	1.2 µF	470 nF
MAX NON AUTO			100 µF	47 µF	47 µF	22 µF	10 µF	1.5 µF	330 nF	330 nF	22 µF	68 µF	22 µF	22 µF	10 µF	2.2 µF	1 µF	470 nF	220 nF	100 µF	100 µF	47 µF	22 µF	22 µF	4.7 µF	2.2 µF	2.2 µF	470 nF
Nb Chip	CODE	CAP	10V	16V	25V	50V	100V	250V	500V	630V	10V	16V	25V	50V	100V	250V	500V	630V	1000V	16V	25V	50V	63V	100V	250V	500V	630V	1000V
1 chip	104	100 nF							A/E	A/E							A/E	A/E	A/E									
	154	150 nF							A/E	A/E																		
	224	220 nF						A/E									A/E	E										A/E
	334	330 nF															E											
	474	470 nF						A/E								A/E										A/E	A/E	A/E
	564	560 nF																								A/E	A/E	
	684	680 nF						E																		A/E	A/E	
	105	1.0 µF														E									A/E	E	E	
	225	2.2 µF					A/E								A/E									A/E	E			
	475	4.7 µF					A/E							A/E	E									A/E				
	565	5.6 µF				A/E																	A/E	A/E				
	685	6.8 µF				A/E					A/E	A/E	A/E										A/E	A/E				
	825	8.2 µF		A/E	A/E	A/E					A/E	A/E	A/E									A/E	A/E	A/E				
	106	10 µF	A/E	A/E	A/E	A/E					A/E	A/E	A/E							A/E	A/E	A/E	A/E	A/E				
	156	15 µF																		A/E	A/E	E						
	226	22 µF	A/E	A/E	A/E						E	E								A/E	A/E	E		E				
	476	47 µF	E																	E	E							
2 chips	225	220 nF							A/E	A/E							A/E	A/E	A/E									
	335	330 nF							A/E	A/E																		
	474	470 nF						A/E									A/E	E										A/E
	664	660 nF															E											
	105	1.0 µF						A/E								A/E										A/E	A/E	A/E
	125	1.2 µF																								A/E	A/E	
	155	1.5 µF						E																		A/E	A/E	
	225	2.2 µF														E									A/E	E	E	
	475	4.7 µF													A/E									A/E	E			
	106	10 µF				A/E	A/E							A/E	E					A/E	A/E	A/E	A/E	A/E				
	166	15 µF		A/E	A/E	A/E					A/E	A/E	A/E															
	226	22 µF	A/E	A/E	A/E	A/E					A/E	A/E	A/E							A/E	A/E	A/E	A/E	A/E				
	336	33 µF																		A/E	A/E	E						
	476	47 µF	A/E	A/E	A/E						E	E								A/E	A/E	E		E				
	107	100 µF	E																	E	E							

A : Auto generic range E : Commercial range White : Height std Black : Height alt

SIZE			1210								1812								2220								
DIELECTRIC			NPO								NPO								NPO								
MAX AUTO			200 nF	200 nF	94 nF	66 nF	66 nF	44 nF	-	-	300 nF	200 nF	200 nF	94 nF	94nF	-	-	-	940 nF	440 nF	300 nF	200 nF	300 n2	66 nF	-	-
MAX NON AUTO			300 nF	200 nF	94 nF	66 nF	66 nF	66 nF	4.4 nF	4.4 nF	440 nF	300 nF	200 nF	140 nF	140 nF	44 nF	16 nF	9.4 nF	940 nF	660 nF	300 nF	300 nF	300 nF	200 nF	66 nF	66 nF
Nb Chip	CODE	CAP	50V	100V	250V	500V	630V	1000V	1500V	2000V	50V	100V	250V	500V	630V	1000V	1500V	2000V	50V	100V	250V	500V	630V	1000V	1500V	2000V
1 chip	122	1.2nF																E								
	222	2.2nF							E	E							A/E											
	103	10 nF														A/E												
	223	22 nF						A/E																				
	333	33 nF				A/E	A/E	E						A/E	A/E										A/E	E	E	
	473	47 nF			A/E									A/E	A/E													
	683	68 nF										A/E	A/E															
	104	100 nF	A/E	A/E								A/E	A/E									A/E	A/E	E				
	154	150 nF	E								A/E										A/E	E	E					
	224	220 nF									A/E									A/E								
	334	330 nF																		E								
	474	470 nF																	A/E									
2 chips	224	2.4 nF																E								
	442	4.4 nF							E	E							A/E											
	203	20 nF														A/E												
	443	44 nF						A/E																				
	663	66 nF				A/E	A/E	E						A/E	A/E										A/E	E	E	
	943	94 nF			A/E									A/E	A/E													
	143	140 nF										A/E	A/E															
	204	220 nF	A/E	A/E								A/E	A/E									A/E	A/E	E				
	304	300 nF	E								A/E										A/E	E	E					
	444	440 nF									A/E									A/E								
	664	660 nF																		E								
	944	940 nF																	A/E									

A : Auto generic range E : Commercial range White : Height std Black : Height alt

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SIZE			1210				1812
DIELECTRIC			X5R				Y5V
Nb Chip	CODE	CAP	6.3V	16V	25V	35V	16V
1 chip	106	10 µF					
	226	22 µF				E	
	476	47 µF		E	E		E
	107	100 µF		E			
	227	220 µF	E				
2 chips	226	22 µF					
	476	47 µF				E	
	107	100 µF		E	E		E
	227	220 µF		E			
	477	470 µF	E				

A : Auto generic range E : Commercial range *White : Height std* ***Black : Height alt***

Contact us for any other voltage, capacitance value, tolerance...

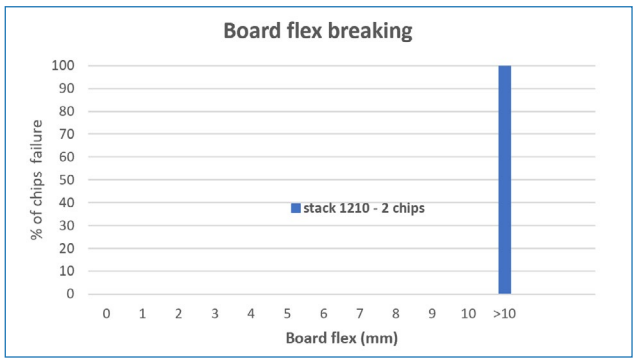
AECQ QUALITY STANDARD

Our components are all subject so strict internal qualifications. For this series, our auto generic range is based on AECQ standards. This means that our chips will meet the quality requirements defined by the AEC.

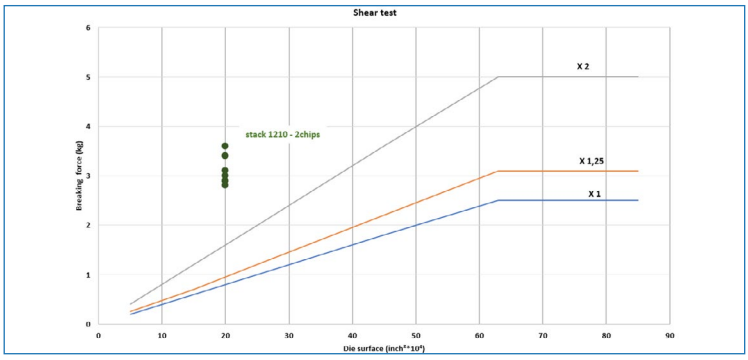
The Auto generic range of our high compact series are designed to meet the Automotive industry standard, but will not require submitting a SCD (Source Controlled Drawing). This series is therefore not AEC qualified, and will not be primarily adressed to Automotive customers.
These quality standards include specific tests, such as : Shear test, board flex, environmental tests, and these stacks insure good performance and reliability.

TYPICAL CHARACTERISTICS

Board Flex Breaking



Shear test



RADIAL CAPACITOR Dipped High Power

NPO N2T X7R 25V-1000V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Severe environment**
- **Historical design**





RoHS compliant

FEATURES

- **Highly reliable design**
- **Epoxy coating option**
- **Available in NPO, N2T, BX, 2X1, X7R**
- **Non magnetic option**
- **Equivalence to most competitors design (cf file)**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T: ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 2U U<500V I 1.5U 500≤U<1000 I 1.2U U=1000

ORDERING INFORMATION

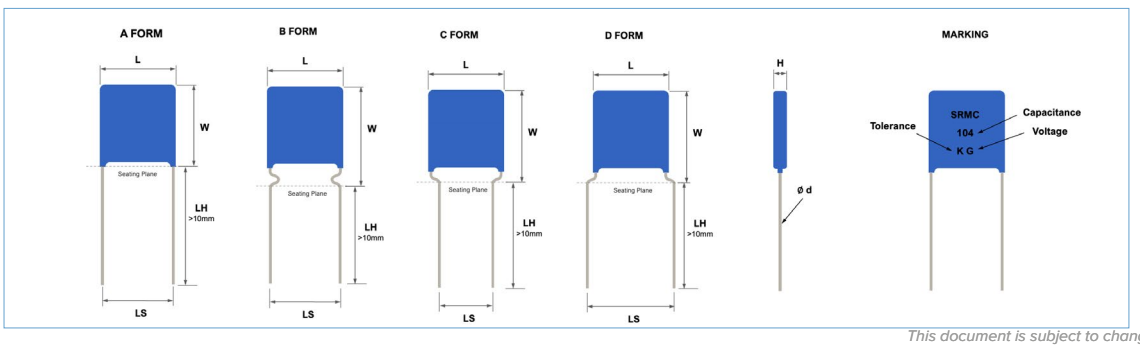
SRMC	-	41	Y	102	J	A	-	-	H	V	-
SERIES	HT	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	LEAD	COATING	PACKAGING	SPECIAL
SRMC	- H = High Temp	31 to 96	A = NP0 P = N2T Y = X7R X = BX BY = 2C1	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	X = 25V A = 50V B = 100V C = 200V E = 500V G = 1000V	- = Sn C = Non magnetic	- = Default A,C,D Form B = B Form	- = Conformal Coating H = Epoxy Coating	V = Bulk B = Ammo	- BM = BME Dxx = Reli-ability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us

DIMENSIONS (in millimeters)

SIZE	31	32	38	40	41	43	44	45	47	48	49	52	54	58
Lenght (L) max	3.8	5.0	6.4	3.8	5.1	6.5	7.6	10.1	8.1	5.1	9.4	6.6	9.0	11.9
Height A (W) max	3.8	5.0	5.6	3.8	-	5.8	7.6	11.7	7.1	-	7.6	-	7.5	10.2
Height B (W) max	6.3	7.5	8.1	6.3	7.6	8.3	10.1	14.4	9.6	6.3	10.1	8.1	10.0	12.7
Height C (W) max	-	5.0	5.6	-	-	-	7.6	11.7	7.1	-	-	-	-	-
Height D (W) max	-	-	-	3.8	5.1	-	-	-	-	3.8	-	5.6	-	-
Width (H) max	2.5	3.2	5.0	2.5	3.2	3.8	4.5	4.5	5.0	4.0	5.0	4.0	4.0	5.0
Lead spacing (LS) ±0.5	2.54	2.54	4.30	5.08	5.08	5.08	5.08	5.08	5.60	6.40	7.00	7.62	7.62	9.50
Lead diameter (d) ±0.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Default Lead type	A	C	V	D	D	A	C	C	C	D	A	D	A	A

SIZE	63	68	72	74	76	80	82	84	88	90	91	92	96	96
Lenght (L) max	12.7	14.5	13.2	17.0	17.0	18.7	19.6	20.0	22.1	25.0	26.7	30.0	42.5	0.0
Height A (W) max	12.3	12.7	-	14.0	12.5	22.5	18.3	17.5	16.8	19.0	12.7	22.5	21.0	21.0
Height B (W) max	13.5	15.0	15.0	15.0	15.0	25.0	20.8	20.0	19.3	21.5	15.4	25.0	23.5	23.5
Height C (W) max	-	-	-	-	-	22.5	18.3	-	-	-	-	-	-	-
Height D (W) max	-	12.7	12.5	-	-	0.0	-	-	-	-	-	-	-	-
Width (H) max	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead spacing (LS) ±0.5	10.16	12.00	12.70	14.60	15.24	15.24	17.10	17.80	20.30	21.00	22.90	27.94	40.64	40.64
Lead diameter (d) ±0.1	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0
Default Lead type	A	D	D	A	A	A	C	A	A	A	A	A	A	A



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QUICK REFERENCE DATA (Max capacitance)

	SRMC31			SRMC32			SRMC38			SRMC40			SRMC41			SRMC43			SRMC44		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	47 pF	100 pF	1.0 pF	10 pF	33 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	10 pF	47 pF	100 pF
25V	*150 nF*	680 nF	*3.9 µF*	*470 nF*	330 nF	*47 µF*	*220 nF*	39 nF	*10 µF*	*82 nF*	330 nF	*2.2 µF*	*220 nF*	120 nF	*22 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	680 nF	*3.9 µF*
50V	*150 nF*	680 nF	*3.9 µF*	*470 nF*	330 nF	*47 µF*	*220 nF*	39 nF	*10 µF*	*82 nF*	330 nF	*2.2 µF*	*220 nF*	120 nF	*6.8 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	680 nF	*3.9 µF*
100V	*150 nF*	680 nF	*3.9 µF*	*330 nF*	330 nF	*22 µF*	*100 nF*	39 nF	*2.2 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	120 nF	*4.7 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	680 nF	*3.9 µF*
200V	*150 nF*	680 nF	3.9 µF	*150 nF*	330 nF	1.8 µF	*22 nF*	39 nF	220 nF	*82 nF*	330 nF	2.2 µF	*100 nF*	120 nF	820 nF	*82 nF*	330 nF	2.2 µF	*150 nF*	680 nF	3.9 µF
250V	*150 nF*	680 nF	3.9 µF	*150 nF*	330 nF	1.8 µF	*22 nF*	39 nF	220 nF	*82 nF*	330 nF	1.8 µF	*100 nF*	120 nF	820 nF	82 nF	330 nF	1.8 µF	150 nF	680 nF	3.9 µF
500V	150 nF	470 nF	1.8 µF	68 nF	220 nF	820 nF	8.2 nF	27 nF	82 nF	82 nF	270 nF	1.0 µF	33 nF	100 nF	330 nF	82 nF	270 nF	1.0 µF	150 nF	470 nF	1.8 µF
630V	120 nF	390 nF	1.2 µF	56 nF	180 nF	560 nF	6.8 nF	18 nF	47 nF	68 nF	220 nF	680 nF	27 nF	82 nF	270 nF	68 nF	220 nF	680 nF	120 nF	390 nF	1.2 µF
1000V	82 nF	270 nF	820 nF	39 nF	120 nF	330 nF	2.7 nF	8.2 nF	15 nF	39 nF	120 nF	390 nF	15 nF	47 nF	120 nF	39 nF	120 nF	390 nF	82 nF	270 nF	820 nF

	SRMC45			SRMC47			SRMC48			SRMC49			SRMC52			SRMC54			SRMC58		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	47 pF	100 pF	1.0 pF	10 pF	33 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	10 pF	47 pF	100 pF
25V	*150 nF*	680 nF	*3.9 µF*	*470 nF*	330 nF	*47 µF*	*220 nF*	39 nF	*10 µF*	*82 nF*	330 nF	*2.2 µF*	*220 nF*	120 nF	*22 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	680 nF	3.9 µF
50V	*150 nF*	680 nF	*3.9 µF*	*470 nF*	330 nF	*47 µF*	*220 nF*	39 nF	*10 µF*	*82 nF*	330 nF	*2.2 µF*	*220 nF*	120 nF	*6.8 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	680 nF	3.9 µF
100V	*150 nF*	680 nF	*3.9 µF*	*330 nF*	330 nF	*22 µF*	*100 nF*	39 nF	*2.2 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	120 nF	*4.7 µF*	*82 nF*	330 nF	*2.2 µF*	*150 nF*	680 nF	3.9 µF
200V	*150 nF*	680 nF	3.9 µF	*150 nF*	330 nF	1.8 µF	*22 nF*	39 nF	220 nF	*82 nF*	330 nF	2.2 µF	*100 nF*	120 nF	820 nF	*82 nF*	330 nF	2.2 µF	*150 nF*	680 nF	3.9 µF
250V	*150 nF*	680 nF	3.9 µF	*150 nF*	330 nF	1.8 µF	*22 nF*	39 nF	220 nF	*82 nF*	330 nF	1.8 µF	*100 nF*	120 nF	820 nF	82 nF	330 nF	1.8 µF	150 nF	680 nF	3.9 µF
500V	150 nF	470 nF	1.8 µF	68 nF	220 nF	820 nF	8.2 nF	27 nF	82 nF	82 nF	270 nF	1.0 µF	33 nF	100 nF	330 nF	82 nF	270 nF	1.0 µF	150 nF	470 nF	1.8 µF
630V	120 nF	390 nF	1.2 µF	56 nF	180 nF	560 nF	6.8 nF	18 nF	47 nF	68 nF	220 nF	680 nF	27 nF	82 nF	270 nF	68 nF	220 nF	680 nF	120 nF	390 nF	1.2 µF
1000V	82 nF	270 nF	820 nF	39 nF	120 nF	330 nF	2.7 nF	8.2 nF	15 nF	39 nF	120 nF	390 nF	15 nF	47 nF	120 nF	39 nF	120 nF	390 nF	82 nF	270 nF	820 nF

	SRMC60			SRMC63			SRMC68			SRMC72			SRMC74			SRMC76			SRMC80		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF
100V	150 nF	680 nF	3.9 µF	270 nF	1.0 µF	5.6 µF	270 nF	1.0 µF	6.8 µF	220 nF	820 nF	5.6 µF	390 nF	1.5 µF	10 µF	330 nF	1.2 µF	8.2 µF	560 nF	2.2 µF	15 µF
200V	150 nF	680 nF	3.9 µF	270 nF	1.0 µF	5.6 µF	270 nF	1.0 µF	6.8 µF	220 nF	820 nF	5.6 µF	390 nF	1.5 µF	10 µF	330 nF	1.2 µF	8.2 µF	560 nF	2.2 µF	15 µF
250V	150 nF	680 nF	3.9 µF	270 nF	1.0 µF	5.6 µF	270 nF	1.0 µF	6.8 µF	220 nF	820 nF	5.6 µF	390 nF	1.5 µF	10 µF	330 nF	1.2 µF	8.2 µF	560 nF	2.2 µF	15 µF
300V	150 nF	680 nF	3.3 µF	270 nF	1.0 µF	5.6 µF	270 nF	1.0 µF	5.6 µF	220 nF	820 nF	4.7 µF	390 nF	1.5 µF	8.2 µF	330 nF	1.2 µF	6.8 µF	560 nF	2.2 µF	15 µF
500V	150 nF	470 nF	1.8 µF	270 nF	820 nF	2.7 µF	270 nF	820 nF	3.3 µF	220 nF	680 nF	2.7 µF	390 nF	1.5 µF	4.7 µF	330 nF	1.0 µF	3.9 µF	560 nF	2.2 µF	8.2 µF
630V	120 nF	390 nF	1.2 µF	220 nF	680 nF	2.2 µF	220 nF	680 nF	2.7 µF	180 nF	560 nF	1.8 µF	330 nF	1.2 µF	3.9 µF	270 nF	820 nF	2.7 µF	560 nF	1.8 µF	6.8 µF
1000V	82 nF	270 nF	820 nF	120 nF	390 nF	1.2 µF	150 nF	470 nF	1.5 µF	120 nF	390 nF	1.2 µF	220 nF	680 nF	2.2 µF	180 nF	560 nF	1.8 µF	390 nF	1.2 µF	3.9 µF

	SRMC82			SRMC84			SRMC88			SRMC90			SRMC91			SRMC92			SRMC96		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	33 pF	100 pF	10 pF	33 pF	100 pF	10 pF	33 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF	22 pF	68 pF	180 pF	22 pF	68 pF	180 pF
100V	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	15 µF	560 nF	2.2 µF	15 µF	470 nF	1.8 µF	12 µF	820 nF	2.7 µF	18 µF	1.0 µF	3.9 µF	27 µF
200V	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	15 µF	560 nF	2.2 µF	15 µF	470 nF	1.8 µF	12 µF	820 nF	2.7 µF	18 µF	1.0 µF	3.9 µF	27 µF
250V	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	15 µF	560 nF	2.2 µF	15 µF	470 nF	1.8 µF	12 µF	820 nF	2.7 µF	18 µF	1.0 µF	3.9 µF	27 µF
300V	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	15 µF	560 nF	2.2 µF	15 µF	470 nF	1.8 µF	12 µF	820 nF	2.7 µF	18 µF	1.0 µF	3.9 µF	27 µF
500V	560 nF	1.8 µF	6.8 µF	560 nF	1.8 µF	6.8 µF	560 nF	2.2 µF	8.2 µF	560 nF	2.2 µF	8.2 µF	470 nF	1.8 µF	6.8 µF	820 nF	2.7 µF	12 µF	1.0 µF	3.9 µF	18 µF
630V	470 nF	1.5 µF	5.6 µF	470 nF	1.5 µF	5.6 µF	560 nF	1.8 µF	5.6 µF	560 nF	1.8 µF	6.8 µF	470 nF	1.5 µF	4.7 µF	820 nF	2.7 µF	8.2 µF	1.0 µF	3.9 µF	12 µF
1000V	330 nF	1.0 µF	3.3 µF	330 nF	1.0 µF	3.3 µF	390 nF	1.2 µF	3.9 µF	390 nF	1.2 µF	3.9 µF	270 nF	820 nF	2.7 µF	470 nF	1.5 µF	4.7 µF	680 nF	2.2 µF	6.8 µF

1) Max Values in italic obtained with BME parts

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RADIAL CAPACITOR Dipped High Voltage

NPO N2T X7R 1KV-15KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- **Severe environement**
- **Historical design**





RoHS compliant

FEATURES

- **Highly reliable design**
- **Epoxy coating option**
- **Available in NPO, N2T, BX, 2X1, X7R**
- **Non magnetic option**
- **Equivalence to most concurent design (cf file)**
- **Marking on larger components**

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
- 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : 2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz
2C1, BX : Q2,5% max

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
1.2Un for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 1.2U 1000≤U≤2000 I 1U U>2000

ORDERING INFORMATION

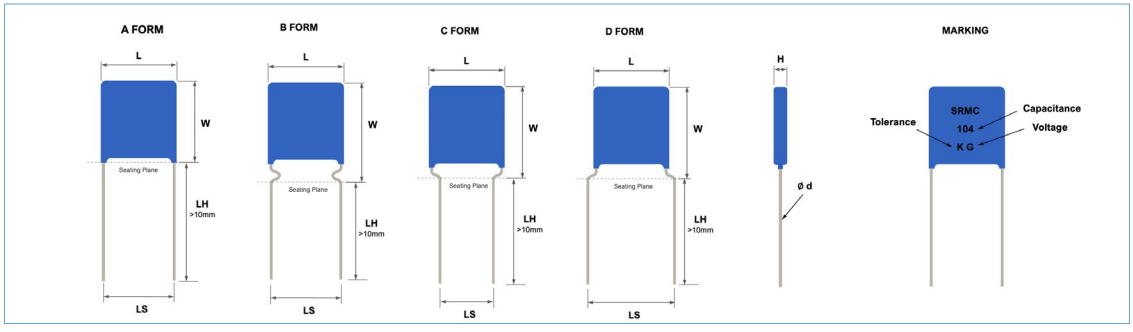
SRMC	-	41	Y	104	K	G	-	-	H	V	-
SERIES	HT	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	LEAD	COATING	PACKAGING	SPECIAL
SRMC	- H = High Temp	31 to 96	A = NP0 P = N2T X = BX Y=X7R BY=2C1	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	G = 1000V O = 1500V H = 2000V I = 3000V L = 5000V 6 = 6000V 8 = 8000V 10 = 10kV 12 = 12kV 15 = 15kV	- = Sn C = Non magnetic	- = Default A = A Form B = B Form C = C Form D = D Form	- = Conformal Coating H = Epoxy Coating	V = Bulk B = Ammo	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us

DIMENSIONS (in millimeters)

SIZE	31	32	38	40	41	43	44	45	47	48	49	52	54	58
Lenght (L) max	3.8	5.0	6.4	3.8	5.1	6.5	7.6	10.1	8.1	5.1	9.4	6.6	9.0	11.9
Height A (W) max	3.8	5.0	5.6	3.8	-	5.8	7.6	11.7	7.1	-	7.6	-	7.5	10.2
Height B (W) max	6.3	7.5	8.1	6.3	7.6	8.3	10.1	14.4	9.6	6.3	10.1	8.1	10.0	12.7
Height C (W) max	-	5.0	5.6	-	-	-	7.6	11.7	7.1	-	-	-	-	-
Height D (W) max	-	-	-	3.8	5.1	-	-	-	-	3.8	-	5.6	-	-
Width (H) max	2.5	3.2	5.0	2.5	3.2	3.8	4.5	4.5	5.0	4.0	5.0	4.0	4.0	5.0
Lead spacing (LS) ±0.5	2.54	2.54	4.30	5.08	5.08	5.08	5.08	5.08	5.60	6.40	7.00	7.62	7.62	9.50
Lead diameter (d) ±0.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Default Lead type	A	C	V	D	D	A	C	C	C	D	A	D	A	A

SIZE	60	63	68	72	74	76	80	82	84	88	90	91	92	96
Lenght (L) max	10.5	12.7	14.5	13.2	17.0	17.0	18.7	19.6	20.0	22.1	25.0	26.7	30.0	42.5
Height A (W) max	11.0	12.3	12.7	-	14.0	12.5	22.5	18.3	17.5	16.8	19.0	12.7	22.5	21.0
Height B (W) max	13.5	13.5	15.0	15.0	15.0	15.0	25.0	20.8	20.0	19.3	21.5	15.4	25.0	23.5
Height C (W) max	-	-	-	-	-	-	22.5	18.3	-	-	-	-	-	-
Height D (W) max	-	-	12.7	12.5	-	-	0.0	-	-	-	-	-	-	-
Width (H) max	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead spacing (LS) ±0.5	10.16	10.16	12.00	12.70	14.60	15.24	15.24	17.10	17.80	20.30	21.00	22.90	27.94	40.64
Lead diameter (d) ±0.1	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0
Default Lead type	A	A	D	D	A	A	A	C	A	A	A	A	A	A



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QUICK REFERENCE DATA (Max capacitance)

	SRMC31			SRMC32			SRMC38			SRMC40			SRMC41			SRMC43/59			SRMC44		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	0.1 pF	1.0 pF	6.8 pF	0.4 pF	4.7 pF	10 pF	0.4 pF	4.7 pF	10 pF	0.1 pF	1.0 pF	6.8 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF
1KV	820 pF	2.2 nF	5.6 nF	6.8 nF	22 nF	47 nF	6.8 nF	22 nF	47 nF	820 pF	2.2 nF	5.6 nF	6.8 nF	22 nF	47 nF	15 nF	47 nF	120 nF	39 nF	120 nF	330 nF
1,5KV	330 pF	820 pF	1.8 nF	2.7 nF	6.8 nF	15 nF	2.7 nF	6.8 nF	15 nF	330 pF	820 pF	1.8 nF	2.7 nF	6.8 nF	15 nF	8.2 nF	22 nF	39 nF	18 nF	56 nF	100 nF
2KV	150 pF	390 pF	820 pF	1.5 nF	3.3 nF	8.2 nF	1.5 nF	3.3 nF	8.2 nF	150 pF	390 pF	820 pF	1.5 nF	3.3 nF	8.2 nF	3.9 nF	8.2 nF	22 nF	12 nF	22 nF	68 nF
2,5KV				820 pF	1.8 nF	4.7 nF	820 pF	1.8 nF	4.7 nF				820 pF	1.8 nF	4.7 nF	2.2 nF	5.6 nF	12 nF	6.8 nF	12 nF	39 nF
3KV				470 pF	1.2 nF	2.7 nF	470 pF	1.2 nF	2.7 nF				470 pF	1.2 nF	2.7 nF	1.2 nF	3.3 nF	8.2 nF	2.7 nF	10 nF	27 nF
4KV				220 pF	680 pF	1.5 nF	220 pF	680 pF	1.5 nF				220 pF	680 pF	1.5 nF	680 pF	1.8 nF	4.7 nF	1.8 nF	4.7 nF	15 nF
5KV																390 pF	1.2 nF	2.7 nF	1.2 nF	3.3 nF	8.2 nF
6KV																270 pF	820 pF	1.8 nF	680 pF	2.2 nF	5.6 nF
8KV																150 pF	390 pF	1.0 nF	330 pF	1.2 nF	2.7 nF
10KV																82 pF	220 pF		270 pF	680 pF	1.2 nF

	SRMC45			SRMC47			SRMC48			SRMC49			SRMC52			SRMC54			SRMC58		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	47 pF	100 pF	1.0 pF	10 pF	33 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	10 pF	47 pF	100 pF
1KV	82 nF	270 nF	820 nF	39 nF	120 nF	330 nF	2.7 nF	8.2 nF	15 nF	39 nF	120 nF	390 nF	15 nF	47 nF	120 nF	39 nF	120 nF	390 nF	82 nF	270 nF	820 nF
1,5KV	47 nF	120 nF	220 nF	18 nF	56 nF	100 nF	1.0 nF	2.7 nF	5.6 nF	22 nF	68 nF	120 nF	8.2 nF	22 nF	39 nF	22 nF	68 nF	120 nF	47 nF	120 nF	220 nF
2KV	27 nF	56 nF	180 nF	12 nF	22 nF	68 nF	560 pF	1.2 nF	2.7 nF	15 nF	27 nF	82 nF	3.9 nF	8.2 nF	22 nF	15 nF	27 nF	82 nF	27 nF	56 nF	180 nF
2,5KV	15 nF	33 nF	100 nF	6.8 nF	12 nF	39 nF	270 pF	680 pF	1.5 nF	8.2 nF	15 nF	47 nF	2.2 nF	5.6 nF	12 nF	8.2 nF	15 nF	47 nF	15 nF	33 nF	100 nF
3KV	6.8 nF	27 nF	56 nF	2.7 nF	10 nF	27 nF	180 pF	470 pF	1.0 nF	3.3 nF	12 nF	27 nF	1.2 nF	3.3 nF	8.2 nF	3.3 nF	12 nF	27 nF	6.8 nF	27 nF	56 nF
4KV	4.7 nF	12 nF	39 nF	1.8 nF	4.7 nF	15 nF	82 pF	220 pF	470 pF	2.2 nF	5.6 nF	18 nF	680 pF	1.8 nF	4.7 nF	2.2 nF	5.6 nF	18 nF	4.7 nF	12 nF	39 nF
5KV	3.3 nF	8.2 nF	22 nF	1.2 nF	3.3 nF	8.2 nF				1.5 nF	3.9 nF	10 nF	390 pF	1.2 nF	2.7 nF	1.5 nF	3.9 nF	10 nF	3.3 nF	8.2 nF	22 nF
6KV	1.8 nF	5.6 nF	12 nF	680 pF	2.2 nF	5.6 nF				820 pF	2.7 nF	6.8 nF	270 pF	820 pF	1.8 nF	820 pF	2.7 nF	6.8 nF	1.8 nF	5.6 nF	12 nF
8KV	820 pF	2.7 nF	6.8 nF	330 pF	1.2 nF	2.7 nF				390 pF	1.5 nF	3.3 nF	150 pF	390 pF	1.0 nF	390 pF	1.5 nF	3.3 nF	820 pF	2.7 nF	6.8 nF
10KV	560 pF	1.8 nF	3.3 nF	270 pF	680 pF	1.2 nF				270 pF	820 pF	1.5 nF	82 pF	220 pF		270 pF	820 pF	1.5 nF	560 pF	1.8 nF	3.3 nF
12KV	390 pF	1.2 nF	2.2 nF																390 pF	1.2 nF	2.2 nF

	SRMC60			SRMC63			SRMC68			SRMC72			SRMC74			SRMC76			SRMC80		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF
1KV	82 nF	270 nF	820 nF	120 nF	390 nF	1.2 µF	150 nF	470 nF	1.5 µF	120 nF	390 nF	1.2 µF	220 nF	680 nF	2.2 µF	180 nF	560 nF	1.8 µF	390 nF	1.2 µF	3.9 µF
1,5KV	47 nF	120 nF	220 nF	68 nF	220 nF	390 nF	82 nF	270 nF	390 nF	68 nF	180 nF	330 nF	120 nF	390 nF	680 nF	100 nF	270 nF	560 nF	220 nF	680 nF	1.2 µF
2KV	27 nF	56 nF	180 nF	47 nF	82 nF	270 nF	47 nF	100 nF	330 nF	39 nF	82 nF	270 nF	82 nF	150 nF	470 nF	56 nF	120 nF	390 nF	120 nF	270 nF	820 nF
2,5KV	15 nF	33 nF	100 nF	27 nF	56 nF	180 nF	27 nF	56 nF	180 nF	22 nF	47 nF	150 nF	47 nF	100 nF	270 nF	33 nF	68 nF	220 nF	82 nF	150 nF	560 nF
3KV	6.8 nF	27 nF	56 nF	12 nF	39 nF	100 nF	12 nF	47 nF	120 nF	10 nF	39 nF	82 nF	18 nF	68 nF	180 nF	15 nF	56 nF	120 nF	33 nF	120 nF	270 nF
4KV	4.7 nF	12 nF	39 nF	8.2 nF	18 nF	56 nF	8.2 nF	22 nF	68 nF	6.8 nF	18 nF	56 nF	12 nF	33 nF	100 nF	10 nF	27 nF	82 nF	22 nF	56 nF	180 nF
5KV	3.3 nF	8.2 nF	22 nF	5.6 nF	12 nF	33 nF	5.6 nF	15 nF	39 nF	4.7 nF	12 nF	33 nF	8.2 nF	22 nF	56 nF	6.8 nF	18 nF	47 nF	15 nF	39 nF	100 nF
8KV	820 pF	2.7 nF	6.8 nF	1.5 nF	4.7 nF	12 nF	1.5 nF	5.6 nF	12 nF	1.2 nF	4.7 nF	10 nF	2.2 nF	8.2 nF	18 nF	1.8 nF	6.8 nF	15 nF	3.9 nF	15 nF	33 nF
10KV	560 pF	1.8 nF	3.3 nF	1.0 nF	2.7 nF	5.6 nF	1.2 nF	3.3 nF	5.6 nF	820 pF	2.7 nF	4.7 nF	1.8 nF	4.7 nF	10 nF	1.2 nF	3.9 nF	6.8 nF	2.7 nF	8.2 nF	15 nF
12KV	390 pF	1.2 nF	2.2 nF	680 pF	1.8 nF	3.9 nF	680 pF	2.2 nF	4.7 nF	560 pF	1.8 nF	3.3 nF	1.0 nF	3.3 nF	6.8 nF	820 pF	2.7 nF	5.6 nF	1.8 nF	5.6 nF	12 nF
15KV				390 pF	1.2 nF		470 pF	1.2 nF		330 pF	1.0 nF		680 pF	1.8 nF		560 pF	1.5 nF		1.2 nF	3.3 nF	

	SRMC82			SRMC84			SRMC88			SRMC81/90			SRMC91			SRMC92			SRMC96		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
min	10 pF	33 pF	100 pF	10 pF	33 pF	100 pF	10 pF	33 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF	22 pF	68 pF	180 pF	22 pF	68 pF	180 pF
1KV	330 nF	1.0 µF	3.3 µF	330 nF	1.0 µF	3.3 µF	390 nF	1.2 µF	3.9 µF	390 nF	1.2 µF	3.9 µF	270 nF	820 nF	2.7 µF	470 nF	1.5 µF	4.7 µF	680 nF	2.2 µF	6.8 µF
1,5KV	180 nF	560 nF	1.0 µF	180 nF	560 nF	1.0 µF	220 nF	560 nF	1.0 µF	220 nF	680 nF	1.2 µF	150 nF	470 nF	820 nF	270 nF	820 nF	1.5 µF	390 nF	1.2 µF	2.2 µF
2KV	100 nF	220 nF	680 nF	100 nF	220 nF	680 nF	120 nF	220 nF	820 nF	120 nF	270 nF	820 nF	100 nF	180 nF	680 nF	180 nF	330 nF	1.0 µF	270 nF	470 nF	1.5 µF
2,5KV	56 nF	120 nF	390 nF	56 nF	120 nF	390 nF	68 nF	150 nF	470 nF	82 nF	150 nF	560 nF	56 nF	120 nF	390 nF	100 nF	220 nF	680 nF	150 nF	330 nF	1.0 µF
3KV	27 nF	100 nF	220 nF	27 nF	100 nF	220 nF	33 nF	120 nF	270 nF	33 nF	120 nF	270 nF	27 nF	100 nF	220 nF	47 nF	180 nF	390 nF	68 nF	270 nF	560 nF
4KV	18 nF	47 nF	150 nF	18 nF	47 nF	150 nF	22 nF	56 nF	150 nF	22 nF	56 nF	180 nF	18 nF	47 nF	120 nF	27 nF	82 nF	220 nF	47 nF	120 nF	330 nF
5KV	12 nF	33 nF	82 nF	12 nF	33 nF	82 nF	15 nF	39 nF	100 nF	15 nF	39 nF	100 nF	12 nF	27 nF	82 nF	22 nF	56 nF	120 nF	33 nF	82 nF	220 nF
8KV	3.3 nF	12 nF	27 nF	3.3 nF	12 nF	27 nF	3.9 nF	12 nF	33 nF	3.9 nF	15 nF	33 nF	3.3 nF	10 nF	27 nF	5.6 nF	18 nF	47 nF	8.2 nF	27 nF	68 nF
10KV	2.2 nF	6.8 nF	12 nF	2.2 nF	6.8 nF	12 nF	2.7 nF	8.2 nF	15 nF	2.7 nF	8.2 nF	15 nF	2.2 nF	6.8 nF	12 nF	3.9 nF	12 nF	22 nF	5.6 nF	15 nF	33 nF
12KV	1.5 nF	4.7 nF	10 nF	1.5 nF	4.7 nF	10 nF	1.8 nF	5.6 nF	10 nF	1.8 nF	5.6 nF	12 nF	1.5 nF	3.9 nF	8.2 nF	2.2 nF	6.8 nF	15 nF	3.9 nF	10 nF	22 nF
15KV	1.0 nF	2.7 nF		1.0 nF	2.7 nF		1.0 nF	3.3 nF		1.2 nF	3.3 nF		820 pF	2.7 nF		1.5 nF	4.7 nF		2.2 nF	6.8 nF	

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RADIAL CAPACITOR Encapsulated

NPO N2T X7R 25V-15KV

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- Severe environment
- Historical design





RoHS compliant

FEATURES

- Leaded radial MLCC capacitor
- Epoxy molded
- High reliability, 100% burn in
- Available in NPO, N2T, BX, 2X1, X7R
- Equivalent to wide range of competitors design
- Custom voltage, package size, capacitance value on request
- Tested in accordance to CECC 32100 and AEC-Q200
- NPO version CECC 30600 et NFC 83-131 compliant
- X7R version CECC 30700 et NFC 83-132 compliant
- 2C1 version NF 83-132 compliant
- High Reliability option : 168 hours burn in
- Laser marked

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
X7R, N2T : - 55°C, + 125°C
NPO : - 55°C, + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : -2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5U U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 2U U<500V I 1.5U 500≤U<1000 I 1.2U 1000≤U≤2000 I 1U U>2000

ORDERING INFORMATION

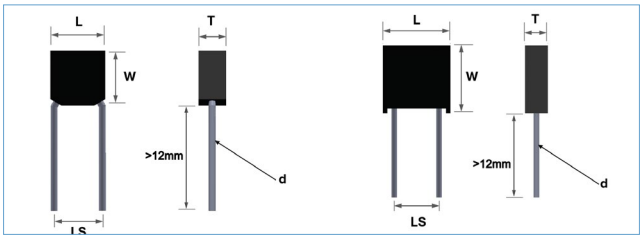
SR	-	41	Y	102	J	A	-	V	XX
SERIES	HT	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	TERMINATION	PACKAGING	SPECIAL
SR	- H = High Temp	41 to 94	A = NP0 P = N2T X = BX Y = X7R BY=2C1	Expressed in picofarads (pF). The first two digits are significant, the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	X = 25 V A = 50 V U = 63 V B = 100 V C = 200 V P = 250 V E = 500 V F = 630 V G = 1 KV H = 2 KV I = 3 KV K = 4 KV L = 5 KV 6 = 6 KV 8 = 8 KV 10 = 10 KV 15 = 15 KV	- : Sn C = Non magnetic	V = Bulk T = Tray	- BM = BME Dxx = Reliability spec Exx = Sorting spec

For other sizes, voltage, tolerance contact us

DIMENSIONS (in millimeters)

SIZE	SR41	SR43	SR45	SR47	SR50	SR60	SR64	SR65
Lenght (L) max	4.0	5.0	7.5	4.0	5.0	7.5	10.0	10.5
Height (W) max	4.5	5.0	7.5	4.5	5.0	7.5	11.0	9.0
Width (T) max	2.5	2.5	2.5	2.5	2.5	2.5	3.5	6.5
Lead spacing (LS) ±0.5	2.54	2.54	4.32	5.08	5.08	5.08	5.08	7.62
Lead diameter (d) ±0.1	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8

SIZE	SR68	SR70	SR74	SR78	SR82	SR86	SR90	SR94
Lenght (L) max	13.0	13.0	18.4	18.0	20.0	28.5	31.0	45.0
Height (W) max	12.0	12.0	12.7	16.0	19.0	19.0	24.0	23.0
Width (T) max	3.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead spacing (LS) ±0.5	10.16	10.16	12.20	15.24	17.80	19.80	27.90	40.60
Lead diameter (d) ±0.1	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0



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QUICK REFERENCE DATA (Max capacitance)

	SR41			SR43			SR45			SR47		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R
Min	='Datas Radi-	0.3 pF	2.2 pF	0.4 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	0.1 pF	0.3 pF	2.2 pF
25V	*15 nF*	5.6 nF	39 nF	*220 nF*	56 nF	390 nF	*470 nF*	270 nF	2.2 µF	*15 nF*	5.6 nF	39 nF
50V	*10 nF*	5.6 nF	39 nF	*150 nF*	56 nF	390 nF	*470 nF*	270 nF	2.2 µF	*10 nF*	5.6 nF	39 nF
100V	*10 nF*	5.6 nF	39 nF	*100 nF*	56 nF	390 nF	*330 nF*	270 nF	2.2 µF	*10 nF*	5.6 nF	39 nF
200V	*2.2 nF*	4.7 nF	33 nF	*47 nF*	56 nF	390 nF	*220 nF*	270 nF	2.2 µF	*2.2 nF*	4.7 nF	33 nF
500V	560 pF	1.8 nF	4.7 nF	10 nF	33 nF	100 nF	56 nF	150 nF	470 nF	560 pF	1.8 nF	4.7 nF
630V	330 pF	1.0 nF	2.7 nF	6.8 nF	18 nF	56 nF	33 nF	100 nF	270 nF	330 pF	1.0 nF	2.7 nF
1000V	120 pF	390 pF	820 pF	2.7 nF	8.2 nF	15 nF	12 nF	39 nF	82 nF	120 pF	390 pF	820 pF
2000V				390 pF	1.2 nF	2.7 nF	2.2 nF	6.8 nF	18 nF			

	SR50			SR60			SR64			SR65		
	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R	NPO	N2T	X7R
Min	220 nF	68 nF	390 nF	470 nF	330 nF	1.8 µF	120 nF	470 nF	2.7 µF	150 nF	680 nF	3.9 µF
25V	*150 nF*	68 nF	390 nF	*470 nF*	330 nF	1.8 µF	120 nF	470 nF	2.7 µF	150 nF	680 nF	3.9 µF
50V	*100 nF*	68 nF	390 nF	*330 nF*	330 nF	1.8 µF	120 nF	470 nF	2.7 µF	150 nF	680 nF	3.9 µF
100V	*47 nF*	68 nF	390 nF	*220 nF*	330 nF	1.8 µF	120 nF	470 nF	2.7 µF	150 nF	680 nF	3.9 µF
200V	*15 nF*	33 nF	120 nF	*68 nF*	150 nF	560 nF	120 nF	270 nF	1.2 µF	150 nF	390 nF	1.8 µF
500V	12 nF	22 nF	68 nF	47 nF	100 nF	330 nF	82 nF	220 nF	1.0 µF	120 nF	330 nF	1.2 µF
630V	3.9 nF	8.2 nF	22 nF	18 nF	39 nF	120 nF	56 nF	150 nF	560 nF	82 nF	220 nF	820 nF
1000V	820 pF	1.2 nF	3.9 nF	3.3 nF	6.8 nF	22 nF	18 nF	27 nF	120 nF	27 nF	39 nF	180 nF
2000V	270 pF	470 pF	1.5 nF	1.2 nF	2.7 nF	8.2 nF	4.7 nF	12 nF	39 nF	6.8 nF	15 nF	56 nF
3000V	120 pF	180 pF	820 pF	680 pF	1.2 nF	4.7 nF	3.3 nF	6.8 nF	27 nF	4.7 nF	10 nF	39 nF
4000V				390 pF	820 pF	2.7 nF	2.2 nF	3.9 nF	15 nF	3.3 nF	5.6 nF	22 nF
5000V				120 pF	220 pF	680 pF	680 pF	1.5 nF	4.7 nF	1.0 nF	2.2 nF	6.8 nF
8000V				68 pF	150 pF	390 pF	470 pF	820 pF	2.2 nF	680 pF	1.2 nF	3.3 nF
10KV										470 pF	820 pF	2.2 nF
12KV										270 pF	560 pF	1.8 nF

	SR68			SR70			SR74			SR78		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R
Min	10 pF	47 pF	100 pF	10 pF	47 pF	100 pF	10 pF	33 pF	100 pF	10 pF	47 pF	100 pF
100V	*220 nF*	820 nF	5.6 µF	270 nF	1.0 µF	5.6 µF	270 nF	1.0 µF	6.8 µF	330 nF	1.2 µF	8.2 µF
200V	*220 nF*	820 nF	5.6 µF	270 nF	1.0 µF	5.6 µF	270 nF	1.0 µF	6.8 µF	330 nF	1.2 µF	8.2 µF
500V	220 nF	560 nF	2.7 µF	270 nF	680 nF	2.7 µF	270 nF	820 nF	3.3 µF	330 nF	1.0 µF	3.9 µF
630V	180 nF	470 nF	1.8 µF	220 nF	560 nF	2.2 µF	220 nF	560 nF	2.7 µF	270 nF	680 nF	2.7 µF
1KV	120 nF	330 nF	1.2 µF	120 nF	330 nF	1.2 µF	150 nF	390 nF	1.5 µF	180 nF	470 nF	1.8 µF
2KV	39 nF	56 nF	270 nF	47 nF	56 nF	270 nF	47 nF	68 nF	330 nF	56 nF	82 nF	390 nF
3KV	10 nF	22 nF	82 nF	12 nF	27 nF	100 nF	12 nF	27 nF	120 nF	15 nF	33 nF	120 nF
4KV	6.8 nF	15 nF	56 nF	8.2 nF	15 nF	56 nF	8.2 nF	18 nF	68 nF	10 nF	22 nF	82 nF
5KV	4.7 nF	8.2 nF	33 nF	5.6 nF	10 nF	33 nF	5.6 nF	10 nF	39 nF	6.8 nF	12 nF	47 nF
6KV	2.7 nF	5.6 nF	18 nF	2.7 nF	5.6 nF	22 nF	3.3 nF	6.8 nF	22 nF	3.9 nF	8.2 nF	27 nF
8KV	1.2 nF	3.3 nF	10 nF	1.5 nF	3.3 nF	12 nF	1.8 nF	3.9 nF	12 nF	2.2 nF	4.7 nF	15 nF
10KV	1.0 nF	1.8 nF	4.7 nF	1.0 nF	1.8 nF	5.6 nF	1.2 nF	2.2 nF	5.6 nF	1.5 nF	2.7 nF	6.8 nF
12KV	680 pF	1.2 nF	3.3 nF	680 pF	1.2 nF	3.9 nF	820 pF	1.5 nF	4.7 nF	1.0 nF	1.8 nF	5.6 nF
15KV	390 pF	680 pF		470 pF	820 pF		470 pF	820 pF		560 pF	1.0 nF	

	SR82			SR86			SR90			SR94		
	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R	NP0	N2T	X7R
Min	10 pF	33 pF	100 pF	10 pF	47 pF	100 pF	22 pF	68 pF	180 pF	22 pF	68 pF	180 pF
100V	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	15 µF	820 nF	3.3 µF	18 µF	1.0 µF	3.9 µF	27 µF
200V	560 nF	2.2 µF	12 µF	560 nF	2.2 µF	15 µF	820 nF	3.3 µF	18 µF	1.0 µF	3.9 µF	27 µF
500V	560 nF	1.8 µF	6.8 µF	560 nF	2.2 µF	8.2 µF	820 nF	2.7 µF	12 µF	1.0 µF	3.9 µF	18 µF
630V	470 nF	1.2 µF	5.6 µF	560 nF	1.5 µF	6.8 µF	820 nF	2.2 µF	8.2 µF	1.0 µF	3.3 µF	12 µF
1KV	330 nF	820 nF	3.3 µF	390 nF	1.0 µF	3.9 µF	560 nF	1.5 µF	5.6 µF	820 nF	2.2 µF	8.2 µF
2KV	100 nF	150 nF	680 nF	120 nF	180 nF	820 nF	180 nF	220 nF	1.2 µF	270 nF	390 nF	1.8 µF
3KV	27 nF	68 nF	220 nF	33 nF	82 nF	270 nF	47 nF	100 nF	390 nF	68 nF	150 nF	560 nF
4KV	18 nF	39 nF	150 nF	22 nF	47 nF	180 nF	33 nF	68 nF	220 nF	47 nF	100 nF	330 nF
5KV	12 nF	22 nF	82 nF	15 nF	27 nF	100 nF	22 nF	39 nF	150 nF	33 nF	56 nF	220 nF
6KV	6.8 nF	15 nF	56 nF	8.2 nF	18 nF	68 nF	12 nF	27 nF	82 nF	18 nF	39 nF	120 nF
8KV	3.9 nF	8.2 nF	27 nF	4.7 nF	10 nF	33 nF	5.6 nF	15 nF	47 nF	8.2 nF	22 nF	68 nF
10KV	2.7 nF	4.7 nF	12 nF	3.3 nF	5.6 nF	15 nF	4.7 nF	8.2 nF	22 nF	6.8 nF	12 nF	33 nF
12KV	1.8 nF	3.3 nF	10 nF	2.2 nF	3.9 nF	12 nF	2.7 nF	5.6 nF	15 nF	4.7 nF	8.2 nF	22 nF
15KV	1.0 nF	1.8 nF		1.2 nF	2.2 nF		1.8 nF	3.3 nF		2.7 nF	4.7 nF	

1) Max Values in italic obtained with BME part

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NPO N2T X7R 25V-5KV

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MLCC CAPACITORS

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RoHS compliant

FEATURES

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- Epoxy molded
- High reliability. 100% burn in
- Available in NPO. N2T. BX. 2X1. X7R
- Equivalent to wide range of competitors design
- Custom voltage. package size. capacitance value on request
- Tested in accordance to CECC 32100 and AEC-Q200
- NPO version CECC 30600 et NFC 83-131 compliant
- X7R version CECC 30700 et NFC 83-132 compliant
- 2C1 version NF 83-132 compliant
- High Reliability option : 168 hours burn in

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
X7R. N2T : - 55°C. + 125°C
NPO : - 55°C. + 125°C

TEMPERATURE COEFFICIENT :
NPO : ± 30ppm
N2T : -2200 ± 350 ppm/C°
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
NP0/N2T : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5U U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000 for 5s with 50mA max charging current

BURN IN :
Chips 24H+Stack 48H 125°C 2U U<500V I 1.5U 500≤U<1000 I 1.2U 1000≤U≤2000 I 1U U>2000

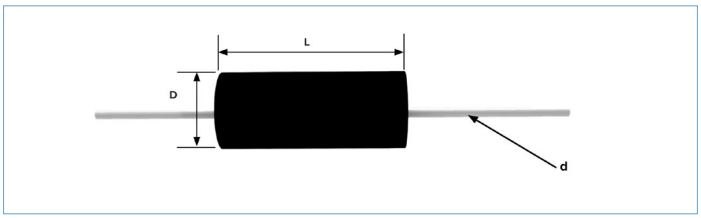
ORDERING INFORMATION

SA	70	Y	102	J	A	V	-
SERIES	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	PACKAGING	SPECIAL
SA	40 50 60 70 80	A = NP0 P = N2T X = BX Y = X7R BY=2C1	Expressed in picofarads (pF). The first two digits are significant. the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	B = ±0.1pF C = ±0.25pF D = ±0.5pF/ ±0.5% F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	X = 25 V A = 50 V U = 63 V B = 100 V C = 200 V P = 250 V E = 500 V F = 630 V G = 1 KV H = 2 KV I = 3 KV K = 4 KV L =5 KV	V = Bulk T = Tray	- Dxx = Reliability spec Exx = Sorting spec

For other sizes. voltage. tolerance contact us

DIMENSIONS (in millimeters)

SIZE	SA40	SA50	SA60	SA70	SA75	SA80	SA90
Lenght (L) ±0.4	4.3	6.4	6.6	10.0	11.0	12.7	17.5
Diameter (D) ±0.4	2.5	2.5	3.9	3.9	5.5	6.4	8.9
Lead diameter (d) ±0.1	0.5	0.5	0.6	0.6	0.6	0.6	0.6
Lead minimal lenght	38	38	38	38	38	38	38



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QUICK REFERENCE DATA (Max capacitance)

	SA40			SA50			SA60			SA70		
	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R	NPO	N2T	X7R
Min	0.1 pF	0.3 pF	2.2 pF	0.1 pF	1.0 pF	6.8 pF	0.4 pF	4.7 pF	10 pF	0.4 pF	4.7 pF	10 pF
25V	*27 nF*	5.6 nF	*1.0 µF*	470 nF	15 nF	*4.7 µF*	*220 nF*	68 nF	*22 µF*	*220 nF*	68 nF	*22 µF*
50V	*10 nF*	5.6 nF	*1.0 µF*	47 nF	15 nF	*4.7 µF*	*150 nF*	68 nF	*10 µF*	*150 nF*	68 nF	*10 µF*
100V	*10 nF*	5.6 nF	*100 nF*	33 nF	15 nF	*1.0 µF*	*100 nF*	68 nF	*4.7 µF*	*100 nF*	68 nF	*4.7 µF*
200V	*2.2 nF*	5.6 nF	39 nF	10 nF	15 nF	100 nF	*47 nF*	68 nF	390 nF	*47 nF*	68 nF	390 nF
250V	*2.2 nF*	5.6 nF	27 nF	10 nF	15 nF	82 nF	*47 nF*	68 nF	330 nF	*47 nF*	68 nF	330 nF
500V	1.0 nF	2.7 nF	6.8 nF	3.3 nF	10 nF	27 nF	*39 nF*	47 nF	180 nF	*39 nF*	47 nF	180 nF
630V	680 pF	1.5 nF	3.9 nF	2.7 nF	6.8 nF	15 nF	*39 nF*	39 nF	120 nF	*39 nF*	39 nF	120 nF
1000V	220 pF	560 pF	1.2 nF	1.0 nF	2.2 nF	5.6 nF	*33 nF*	22 nF	47 nF	*33 nF*	22 nF	47 nF
1500V	68 pF	180 pF	390 pF	270 pF	680 pF	2.2 nF	2.7 nF	6.8 nF	18 nF	2.7 nF	6.8 nF	18 nF
2000V				150 pF	390 pF	820 pF	1.2 nF	3.3 nF	8.2 nF	1.2 nF	3.3 nF	8.2 nF

	SA75			SA80			SA90		
	NP0	N2T	X7R	NP0	N2T	X7R	NPO	N2T	X7R
Min	1.0 pF	4.7 pF	10 pF	1.0 pF	10 pF	33 pF	1.0 pF	10 pF	33 pF
25V	*220 nF*	120 nF	*22 µF*	*470 nF*	330 nF	*47 µF*	*470 nF*	330 nF	*47 µF*
50V	*220 nF*	120 nF	*6.8 µF*	*470 nF*	330 nF	*47 µF*	*470 nF*	330 nF	*47 µF*
100V	*150 nF*	120 nF	*4.7 µF*	*330 nF*	330 nF	*15 µF*	*330 nF*	330 nF	*15 µF*
200V	*100 nF*	120 nF	820 nF	*150 nF*	330 nF	1.8 µF	*150 nF*	330 nF	2.2 µF
250V	*100 nF*	120 nF	820 nF	*150 nF*	330 nF	1.8 µF	*150 nF*	330 nF	1.8 µF
500V	*47 nF*	100 nF	330 nF	*100 nF*	220 nF	820 nF	*100 nF*	270 nF	1.0 µF
630V	*47 nF*	82 nF	270 nF	*100 nF*	180 nF	560 nF	*100 nF*	220 nF	680 nF
1000V	15 nF	47 nF	120 nF	*100 nF*	120 nF	330 nF	*100 nF*	120 nF	390 nF
1500V	8.2 nF	18 nF	56 nF	18 nF	56 nF	150 nF	22 nF	68 nF	180 nF
2000V	3.9 nF	8.2 nF	22 nF	12 nF	22 nF	68 nF	12 nF	27 nF	82 nF

1) Max Values in italic obtained with BME part

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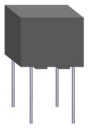
4 LEADS CAPACITOR Encapsulated

X7R 50V-500V

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

APPLICATIONS

- Severe environment
- Historical design



RoHS compliant

FEATURES

- 4 Leaded radial MLCC capacitor
- Epoxy molded
- High reliability. 100% burn in
- Equivalent to concurent design
- Straight or Crossed Electrodes
- Marking

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
X7R. N2T : - 55°C. + 125°C

TEMPERATURE COEFFICIENT :
X7R : ± 15% with 0Vdc applied

DISSIPATION FACTOR:
X7R : ≤ 0.025 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5U U≤200V I U+250V 200<U≤500

BURN IN :
Chips 24H+Stack 48H 125°C 2U U<500V I 1.5U 500≤

QUICK REFERENCE DATA (Max capacitance)

	SF10/15	SF20/25	SF30/35	SF40/45	SF50/55
	X7R	X7R	X7R	X7R	X7R
Min	1 µF	1.5 µF	1.8 µF	3.3 µF	5.6 µF
50V	18 µF	27 µF	39 µF	82 µF	120 µF
100V	5.6 µF	10 µF	18 µF	27 µF	39 µF
200V	2.7 µF	3.9 µF	6.8 µF	12 µF	18 µF
500V	1.5 µF	1.8 µF	3.3 µF	5.6 µF	8.2 µF

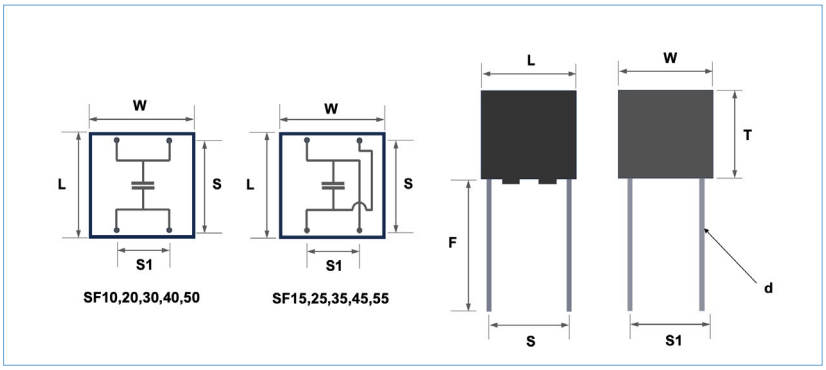
ORDERING INFORMATION

SF	70	Y	102	M	A	V	-
SERIES	SIZE	DIELECTRIC	CAPACITANCE	TOLERANCE	VOLTAGE	PACKAGING	SPECIAL
SF	10 15 20 25 30 35 40 45 50 55	Y = X7R	Expressed in picofarads (pF). The first two digits are significant. the third digit give the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	K = ± 10% M = ± 20%	A = 50 V B = 100 V C = 200 V E = 500 V	V = Bulk	- Dxx = Reliability spec Exx = Sorting spec

For other sizes. voltage. tolerance contact us

DIMENSIONS (in millimeters)

SIZE	SF10	SF15	SF20	SF25	SF30	SF35	SF40	SF45	SF50	SF55
Lenght (L) ±0.5	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Width (W) ±0.5	19.0	20.0	19.0	20.0	19.0	20.0	19.0	20.0	19.0	20.0
Height (T) max	6.5	6.5	8.0	8.0	12.5	12.5	20.0	20.0	30.0	30.0
Lead Spacing (S) ±0.5	17.8	15.24	17.8	15.24	17.8	15.24	17.8	15.24	17.8	15.24
Lead Spacing (S1) ±0.5	10.16	12.7	10.16	12.7	10.16	12.7	10.16	12.7	10.16	12.7
Lead diameter (d) ±0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead lenght (F) min	30	30	30	30	30	30	30	30	30	30



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QUICK REFERENCE DATA (Max capacitance)

	SF10/15	SF20/25	SF30/35	SF40/45	SF50/55
	X7R	X7R	X7R	X7R	X7R
Min	1 µF	1.5 µF	1.8 µF	3.3 µF	5.6 µF
50V	18 µF	27 µF	39 µF	82 µF	120 µF
100V	5.6 µF	10 µF	18 µF	27 µF	39 µF
200V	2.7 µF	3.9 µF	6.8 µF	12 µF	18 µF
500V	1.5 µF	1.8 µF	3.3 µF	5.6 µF	8.2 µF

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APPLICATIONS

- If good electronic design dictates whenever it is possible to use standard components with multiple sources, some special needs can be only adressed with a custom developed product, as to allow gain in performance, compacity, reliability.
- With our highly flexible production, our offer in standard products covers a wide range of products, always without obsolescence.
- In addition to this standard range, designer can work with SRT-Microcéramique engineers to develop any combination of ceramic, voltage, capacity, package, reliability program to fit their exact needs.

OBSOLESCENCE

- The need to produce and maintain some electronic design for tens of years, often collides with the obsolescence policies of the major manufacturers. SRT-Microcéramique can provide strict equivalents to competitors designs, SMD, Stacks, Dipped, Encapsulated radials, axials... and insure its production overtime with its no obsolescence policy.

FORMAT

- For cross references needs or specific designs we can propose any SMD format between 0402 and 80300.
- Barcap, 4 corners, discs, arrays... can be proposed

CERAMIC

- In addition to its wide range of ceramic, type 1, type 2, N2T for power and pulse appplication, SRT-Microcéramique can also offer positive temperature coefficients, high temperature type 1 etc...

VOLTAGE

- Any specific voltage that is not in our standard range can be added (1100V, 1200V etc...) in order to optimize the component design.
- Very high voltage design up to 32KV.

CAPACITY

- Specific capacitance values that are not in the standard ISO range can be proposed.
- The codification of the specific P/N is based on the capacitance in picofarad with R as a decimal separator
- ex : 45,3pf = 45R3, 8320pf = 8320R0, 12.2nF = 12200R0

TERMINATION

- Any combination of components and termination, even if not present in our standard catalog can be proposed.
- Change of termination on any component, even if not produced by SRT, especially high value BME products is possible : Gold termination, dipped lead, dipped SAC, Silver-Palladium etc...

PACKAGE

- Any combination of stacks, leaded, dipped, encapsulated in any specific format can be proposed with PME SRT components or qualified BME high capacitance components.

SORTING

- SRT-Microcéramique, proposes on a regular basis, very high precision sorting for some of its customers.
- Up to 0.05% in Type 1, on specific value or cells.

RELIABILITY

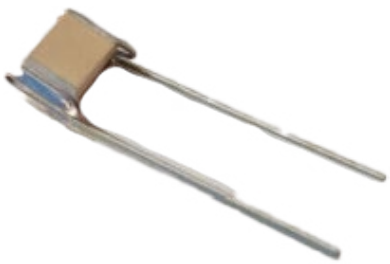
- Depending on the Reliability need of the component, specific qualifications and testing programs can be agreed upon in addition to our standard process.
- Burn-In, LAT, RCS etc...
- SRT-Microcéramique regulary works with space, medical and defense customers.

DESIGN PROCESS

- Working directly with our engineers and depending on the development difficulty, custom design can be proposed in 8 to 10 weeks.
- The first samples could require some tooling and development cost, but every effort will be made to propose consistent and as competitive as possible price for production volume.
- A specific datasheet for the custom product will be provided and the no obsolescence policy will garantee the production over the years.







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SIZE

SRT	EXXELIA	AVX	SYFER
0306 (on demand)		0306/LD16	
0402	CEC/CNC 19 ...SHL	0402	0402
0403 (on demand)	CEC/CNC 17		
0405 (on demand)			
0504	CEC/CNC 1		
0505	...SHA		
0508	CER/CNR 2	0508/LD17	
0603	CEC/CNC 19 R14 ...SHS	0603	0603
0612 (on demand)	CER/CNR 12	0612/LD18	
0709 (on demand)	...SHR		
0711 (on demand)	...SHD		
0805	CEC/CNC 2 R15 ...SHF	0805	0805
0907 (on demand)	CEC/CNC 18		
1005 (on demand)	CEC/CNC 8		
1111	...SHB/...NHB		
1206	CEC/CNC 12 R18 ...SHN	1206	1206
1210	CEC/CNC 4 S41 ...SHT	1210	1210
1515	C1/C2/C4 78		
1605	CEC/CNC 9		
1806	CEC/CNC 3		
1808			1808
1812	CEC/CNC 6 S43 C1/C2/C4 79	1812	1812
1825	CEC/CNC 70 C1/C2/C4 90	1825	1825
2210 (on demand)	CEC/CNC 5		
2220	CEC/CNC 7 S47 C1/C2/C4 80 ...CLX	2220	2220
2225	CEC/CNC 71 C1/C2/C4 91 ...R2225 ...CPX	2225	2225
2528 (on demand)	CEC/CNC W		
2825	C1/C2/C4 81		
3030 (on demand)	CEC/CNC X		
3040 (on demand)	CEC/CNC 72		
3033	...R3033		
3333	C1/C2/C4 82		
3640		3640	3640
3740	...R3740		
4040	C1/C2/C4 83 ...CPE/...CLE		
5440	C1/C2/C4 84 ...R5440		
5550	C1/C2/C4 89 ...R5550		5550
6080	...R6080		
6560	C1/C2/C4 85		
7065	...CLF		
8060	...R8060		8060
45107 (on demand)	...R45107		
11283 (on demand)	C1/C2/C4 87		
16080 (on demand)	C1/C2/C4 88		

CERAMIC

CERAM	SRT	EXXELIA	AVX	SYFER
NPO	xxA...	CEC CER ...R..N C1...	...A	C/Q/U/A/K/F/G
BX	xxX...	CNC		B
2C1	xxBY...	CNC		R
X7R	xxY...	CNC CNR ...R..X ...R...T C2...	...C	X/J/S/E/D
High Q	xxQ...	...CH ...SH ...CL ...CP		

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TERMINATION

CERAM	SRT	EXXELIA	AVX	SYFER
Ag	Q	Q		
Ag+Ni+dipSn/Pb60/40	H	T		
Ag/Pd/Pt+dipSn/Pb60/40	on demand	H		
Ag+Ni +elSn/Pb95/5	I	C		
Ag+Ni +elSn/Pb60/40	on demand	D		
Ag+Ni +dipSn/Pb60/40	H	E		
Ag+Ni+Au	W	G	G	
Ag+PolY+Ni+Sn/Pb95/5	on demand	YC		
Ag+PolY+Ni+Sn/Pb60/40	on demand	YD		
Ag+ Poly +Ni+Au	on demand	YG		
Ag/Pd/Pt ROHS	F	W		
Ag ROHS	Q	QW		
Ag/Pd/Pt+ dip Sn ROHS	on demand	HW		
Ag+Ni+ el SnAg ROHS	on demand	CW		
Ag + Ni + el Sn ROHS	X	EW	T	J
Ag + Ni + Au ROHS	W	GW		
Ag+Poly+Ni+Sn ROHS	P	YCW	Z/X	H
Ag+ Poly +Ni+Au ROHS	on demand	YGW		
Sn/Cu/Ag	C	C		2
Ag/Pd	F	A	1	F

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SIZE

LEAD SP MM	SRT	EXXELIA	AVX	SYFER
2,54	SRMC31	TC 77-5 TCN 72-5	SR15	8111M LE0805
	SRMC32	TCE TCX TCN TXR 78-5 TCN 73-5	SR20	8121M LR1206
4,32	SRMC38	**TKD 79** **TKD 90**	SV01	LE1515
5,08	SRMC40	**TCE TCX TCN TXR 77-1** **TCE TCX TCN TXR 78-1** **TCN 72-1**		LD0805 8111N LD1206 LD1210
	SRMC41	**TCL 79** **TCL 90** **TCF 78** **TCN 73-1**	SR21	
	SRMC43	**TCF 79** **TCL 80** **TCL 91** **non magn S43**		LE1812
	SRMC44	TCE TCX TCN TXR 79-5 TCN 74-5 R 2225 TCF 80 TCF 90 TCF 91 non magn S47	SV13/SV63 SR30	8131M LB2225
	SRMC45	TCE TCX TCN TXR 80-5 TCN 75-5 TEF 3033 R 3033	SR40 SV14/SV64	8141M
5,60	SRMC47	TKD 80 TKD 91	SV02/SV52	
6,35	SRMC48		SR22	LQ1206
7.00	SRMC49	TKD 81	SV03/SV53	LE2520
7.62	SRMC52		SR27	
	SRMC54	TCL 81 TCF 81	SV04/SV54	8121T 8131T
9,52	SRMC58	TKD 82	SV05/SV55	LE3530
10.16	SRMC60	TCL 82 TCF 82		
	SRMC63	R 3740 TEF 3740 TCE TCX TCN TXR 76-5	SR50 SV15/SV65	8151M
12.10	SRMC68	TKD 83	SV07/SV57	LE4540
12.70	SRMC72	TCL 83 TCF 83		
14.60	SRMC74	TKD 84 TEF 5550	SV08/SV58	8161M LE5550
15.24	SRMC76	TCL 84 TCL 89 R 5550 TCF 84		
	SRMC80	R 6080 TEF 6080		
17.10	SRMC82	TKD 85	SV09/SV59	LE6560 8165M
	SRMC84	TCL 85 TCF 85 R 6560		
20.30	SRMC88	R 8060	SV17/SV67 SV16/SV66	LE7565
21.00	SRMC90	TEF 8060		8111M
	SRMC91	TKD 87	SV10	
29.94	SRMC92	TCL 87 TCF 87	SV11	
40.64	SRMC96	TKD 88 TCL 88 TCF 88		

CERAMIC/TERMINATION

CERAM	SRT	EXXELIA	AVX	SYFER
NPO	SRMCxxA...	**TCE...** **Non magnetic N...** **TCK1... TCL1... TCF1... TKD1...**	SRxxxA... SLxxxA... ARxxxA...	81....C... LE0805
BX	SRMCxxX...	**TCX...**	SR20	8121M LR1206
X7R	SRMCxxY...	**TXR...** **Non magnetic X...** **TCK2... TCL2... TCF2... TKD2...**	SRxxxC... SLxxxC... ARxxxC...	81....X...

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SIZE

LEAD SP MM	SRT	EXXELIA	AVX	SYFER
2.54	SR41	TCE TCX TCN TXR 61 LA 1 LA 2 TCE 11 L/Y TCN 31 Y TCE 13 L/Y		
	SR43	TCE TCX TCN TXR 62 TCE 11 L/I TCN 31 I TCE 13 L/I	MR04	
4.32	SR45			Syfer 1515
5.08	SR47	TCE TCX TCN TXR 62N CK 05 TCE 11 NY TCN 31 NY TCE 13 NY		
	SR50	TCE TCX TCN TXR 50 TCE TCX TCN TXR 62N LA 3 TCE 11 N/I TCN 31 N/I TCE 13 N/I TCN 19 low capa	MR05	
	SR60	TCE TCX TCN TXRK 79 TCE TCX TCN TXRK 90 CK 06 TCE TCX TCN TXR 60 TCE TCX TCN TXR 63 LA 5A LA 5B LA 5C TCE TCX TCN TXRK 80 TCE TCX TCN TXRK 91 TCE 11 L/J TCN 30 J TCE 13 L/J TCN 31 J TCN 19 high capa	MR06	
	SR64	TCE TCX TCN TXR 64 TCE 11 L/O TCN 30 O TCE 13 L/O TCN 31 O		Syfer 2520
7.62	SR65	TCE TCX TCN TXRK 81		-
10.16	SR68		MR07	
	SR70	TCE TCX TCN TXRK 82	MR08	Syfer 4540
	SF10/SF15	TCN83-1/TCN-86-1		
	SF20/SF25	TCN83-2/TCN-86-2		
	SF30/SF35	TCN83-3/TCN-86-3		
	SF40/SF45	TCN83-4/TCN-86-4		
	SF50/SF55	TCN83-5/TCN-86-5		
12.20	SR74	TCE TCX TCN TXRK 83		Syfer 5550
15.20	SR78	TCE TCX TCN TXRK 84 TCE TCX TCN TXRK 89		
17.30	SR82	TCE TCX TCN TXRK 85		Syfer 6560
19.80	SR86			Syfer 7565
27.90	SR90	TCE TCX TCN TXRK 87		
40.60	SR94	TCE TCX TCN TXRK 88		

CERAMIC/TERMINATION

CERAM	SRT	EXXELIA	AVX	SYFER
NPO	SRxxA...	TCE... TCK1... LA1-5	MRxxxA...	xxxxN... xxxxRN...
BX	SRxxX...	TCX...		
2C1	SRxxBY	CK5.. CK6...		
X7R	SRxxY...	TCN TCK2 TCK4	MRxxxC...	xxxxB... xxxxRB...

SIZE

DIAMETER	SRT	EXXELIA	AVX	KEMET
2.5	SA40...	TC52R...	MA10...	C114...
	SA50...		MA20...	C124...
3.9	SA60...	TC53R...		
	SA70...	TC54R...	MA30...	C192...
5.5	SA75...	TC55R...		
6.4	SA80...		MA40...	C202...

CERAMIC/TERMINATION

CERAM	SRT	EXXELIA	AVX	KEMET
NPO	SAxxA...	TCE...	MA...A...	C.....G...
BX	SAxxX...	TCX...		C.....X...
2C1	SAxxBY	TCN...		
X7R	SAxxY...	TXR...	MA...C...	C.....R...

SIZE

SRT	EXXELIA	AVX
SRMC1210		
SRMC1812		
SRMC1825		
SRMC2220		
SRMC2225	SC00	
SRMC2825		
SRMC3033	SC01/TEV53	CH42-44/CH41-44
SRMC3640	SC02/TEV54	CH52-54/CH51-54
SRMC4040		
SRMC40150		CH82-84/CH81-84
SRMC5550	SC04/TEV55	CH62-64/CH61-64
SRMC6080	SC06/TEV56	CH72-74/CH71-74
SRMC60110		CH87-89/CH86-89
SRMC6660	SC05	
SRMC8060	SC07/TEV65	CH77-79/CH76-79
SRMC80100	SC10	
SRMC80150	SC12/TEV58	CH92-94/CH91-94

FORM

FORM	SRT	EXXELIA	AVX
L	...L...	...DL...	...0A7
J	...J...	...DJ...	...0A8
D	...D...	...DN...	...0A0
M	...M...		
4 Wires	...Ux...	...U4.../TEV...	...3xx4

CERAMIC

CERAM	SRT	EXXELIA	AVX
NPO	...A...		
X7R	...Y...	...X.../...T...	...C...

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SIZE

SRT	EXXELIA	KEMET
SRTV1210...		
SRTV1812...		
SRTV2220...		L1G...69...
SRTV2225...		L1G...70...
SRTV3033...	..SV01...	
SRTV3640...	..SV02...	
SRTV4040...		
SRTV5440...		
SRTV5550...	...SV01...	
SRTV6560...	...SV05...	
SRTV6080...	...SV07...	
SRTV8060...	...SV07...	

EXEMPLE

- **SRT : SRTV3740Y106KAT6BE25 = Exxelia : 500SV02X106KW2C**

SERIES

EXXELIA	LECLANCHE CAPACITORS
A64	CKM 501-4BDF
A64S	MKP d
A74	CKM 501-4BDF
BIK	PPM g
HT77	KN g
KM 311	CKM 311
KM 501	CKM 501
KM 94	MKS SMD
KM711	MKP df / MKS df
KM82	MKS gb
KSP4	KC-4
MKT	MKT b
MPA4W	CKT 501-4BDF
PHM912	MKNHV
PLP3	PPM r
PLS3	KPh/KSh
PM 50	MKT g
PM 60	MKT d
PM 7	MKT df
PM 89	MKT-4 a
PM 90	MKT-4 g
PM 94	MKT SMD
PM90-R2	MKT SMF
PMA 64	MKT g/ga
PMR 64	MKP g
PP 20	PPM h
PP 78 A	PPM d
PP 78 R	PPM g
PP12W	PPM c2
PPS 16	KP
PRM 4	CKM 501-4BG
R64S	MKP g
RA 1	KPS d
RA 2	KPS d
RA 3	KPS d
RA 4	KPS d
RA 75	KPS d
SP270UL	MKS df
SP2767	PPM 110-1.0 dv (K)
SP289UL	MKS df
SP2961	MKT-4 50-4.7 a (K)
SP2962	MKT-4 50-15.0 a (K)
SP2986W	PAM 85-2.0 cv2 (K)
SP3187	PPM 150-047 c (K)
SP3188	PPM 210-025 c (K)

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MLCC CAPACITORS

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