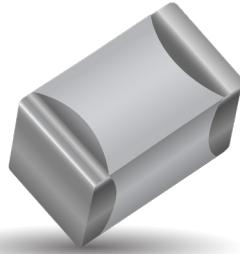


RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

SQ Series Ultra Low ESR MLC



FEATURES

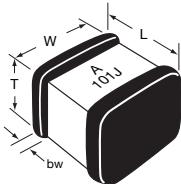
- Low ESR
- High Q
- High Self Resonance
- Capacitance Range 0.1 pF to 5100pF
- 175°C Capability SQCB
(Standard voltages only)

APPLICATIONS

- RF Power Amplifiers
- Low Noise Amplifiers
- Filter Networks
- MRI Systems

HOW TO ORDER

AVX Style	Case Size	Voltage Code	M	100	J	A	T	1A
SQ	CA = 0605 CB = 1210	5 = 50V 1 = 100V E = 150V 2 = 200V V = 250V 9 = 300V 7 = 500V C = 600V A = 1000V S = 1500V	Temperature Coefficient Code M = +90±20ppm/°C A = 0±30ppm/°C C = 15% ("J" Termination only)	Capacitance EIA Capacitance Code in pF. First two digits = significant figures or "R" for decimal place. Third digit = number of zeros or after "R" significant figures.	Capacitance Tolerance Code A = ±.05 pF B = ±1 pF C = ±.25 pF D = ±.5 pF F = ±1% G = ±2% J = ±5% K = ±10% M = ±20%	Failure Rate Code A = Not Applicable	Termination Style Code J=Nickel Barrier Sn/Pb (60/40) **T=100% Tin **C=Non-Magnetic Barrier/Tin	Packaging Code ME = 7" Reel Marked (0605, 1210 & 0709 only) 2A = 7" Unmarked (0402, 0603, & 0805 only) * Vertical T&R available
								**RoHS compliant



MECHANICAL DIMENSIONS: inches (millimeters)

Case	Length (L)	Width (W)	Thickness (T)	Band Width (bw)
SQCA*	.055 ± .015 - .010 (1.40 ± .381 - .254)	.055±.015 (1.40±.381)	.020/.057 .508/1.45	.010 ± .010 -.005 (.254 ± .254 -.127)
SQCB*	.110 ± .020 - .010 (2.79 ± .508 - .254)	.110±.010 (2.79±.254)	.030/.102 .762/2.59	.015±.010 (.381±.254)

TAPE & REEL: All tape and reel specifications are in compliance with EIA RS481 (equivalent to IEC 286 part 3).

-8mm carrier

-7" reel:

WAFFLE PACK

SQCA 100 pcs
SQCB 100 pcs



For RoHS compliant products,
please select correct termination style.

Also available in:

Not RoHS Compliant



The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

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ELECTRICAL SPECIFICATIONS

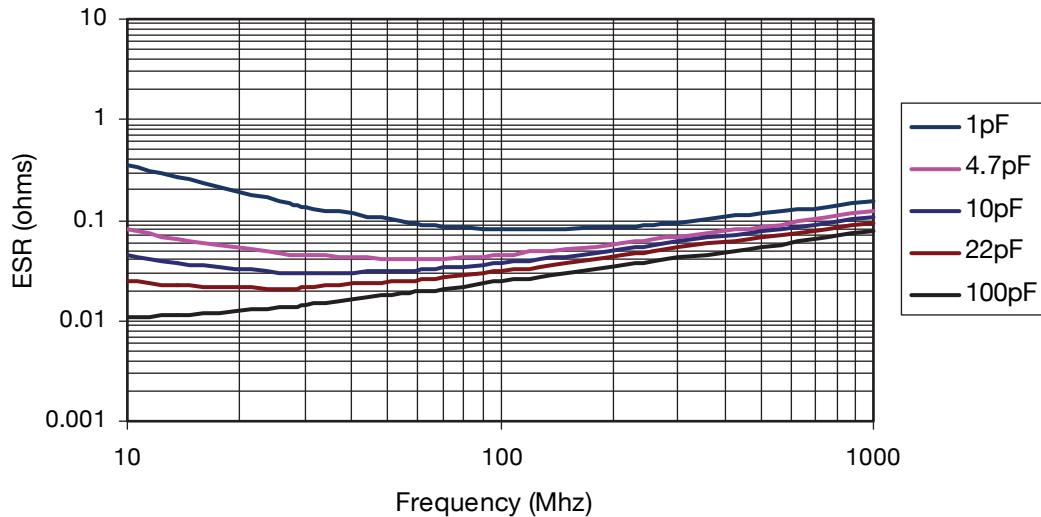
Dielectric	M & A	C
Temperature Coefficient (TCC)	(M) +90 ± 20 PPM/°C (-55°C to +125°C) (M) +90 ± 30 PPM/°C (+125°C to +175°C)* (A) 0 ± 30 PPM/°C	±15% (-55°C to 125°C)
Capacitance Range	(M) 0.1 pF to 1000 pF (A) 0.1 pF to 5100 pF	0.001μF to 0.1μF
Operating Temperature	A Case: -55°C to +125°C* B Case (M Dielectric): 0.1 pF to 330 pF: from -55°C to +175°C 360 pF to 5100 pF: from -55°C to +125°C B Case (A Dielectric): 0.1 pF to 200 pF: from -55°C to +175°C 220 pF to 5100 pF: from -55°C to +125°C	-55°C to +125°C
Quality Factor (Q)	M Dielectric A & B Case	Greater than 10,000 at 1 MHz
	A Dielectric B Case	Greater than 10,000 at 1 MHz Greater than 2,000 at 1 MHz Greater than 2,000 at 1 KHz
	A Dielectric A Case	Greater than 10,000 at 1 MHz Greater than 2,000 at 1 MHz
Insulation Resistance (IR)	0.1 pF to 1000 pF 105 Megohms min. @ 25°C at rated WVDC 104 Megohms min. @ 125°C at rated WVDC	10 ⁴ Megohms min. @ 25°C at rated WVDC 10 ³ Megohms min. @ 125°C at rated WVDC
Working Voltage (WVDC)	See Capacitance Values table	See Capacitance Values table
Dielectric Withstanding Voltage (DWV)	250% of rated WVDC for 5 secs	250% of rated WVDC for 5 secs
Aging Effects	None	<3% per decade hour
Piezoelectric Effects	None	None
Capacitance Drift	± (0.02% or 0.02 pF), whichever is greater	Not Applicable
Piezoelectric Effects	None	
Capacitance Drift	± (0.02% or 0.02 pF), whichever is greater	

ENVIRONMENTAL CHARACTERISTICS

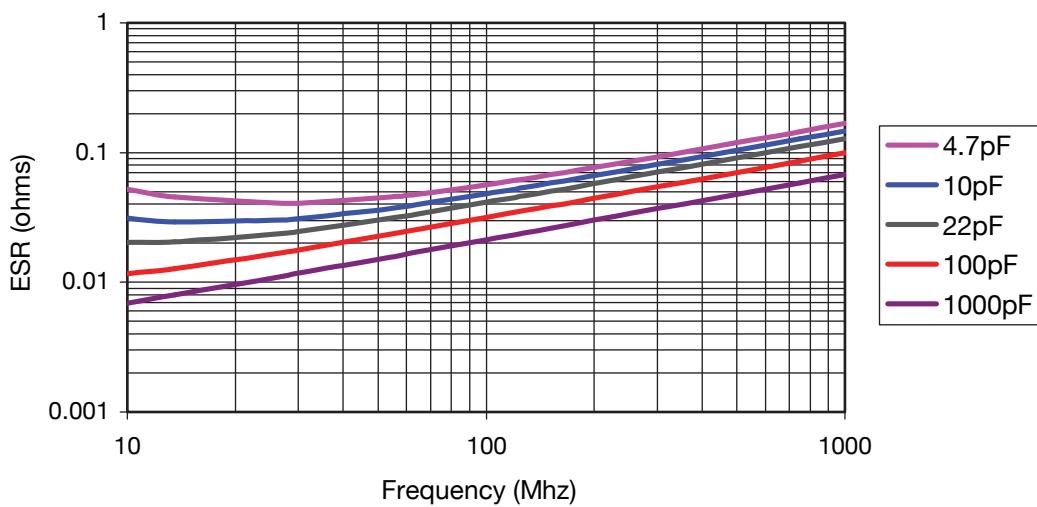
AVX SQ will meet and exceed the requirements of EIA-198, MIL-PRF-55681 and MIL-PRF-123

Thermal Shock	Mil-STD-202, Method 107, Condition A
Moisture Resistance	Mil-STD-202, Method 106
Low Voltage Humidity	Mil-STD-202, Method 103, condition A, with 1.5 VDC applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours
Life Test	Mil-STD-202, Method 108, for 2000 hours at 125°C 200% WVDC
Shock	Mil-STD-202, Method 213, Condition J
Vibration	Mil-STD-202, Method 204, Condition B
Immersion	Mil-STD-202, Method 104, Condition B
Salt Spray	Mil-STD-202, Method 101, Condition B
Solderability	Mil-STD-202, Method 208
Terminal Strength	Mil-STD-202, Method 211
Temperature Cycling	Mil-STD-202, Method 102, Condition C
Barometric Pressure	Mil-STD-202, Method 105, Condition B
Resistance to Solder Heat	Mil-STD-202, Method 210, Condition C

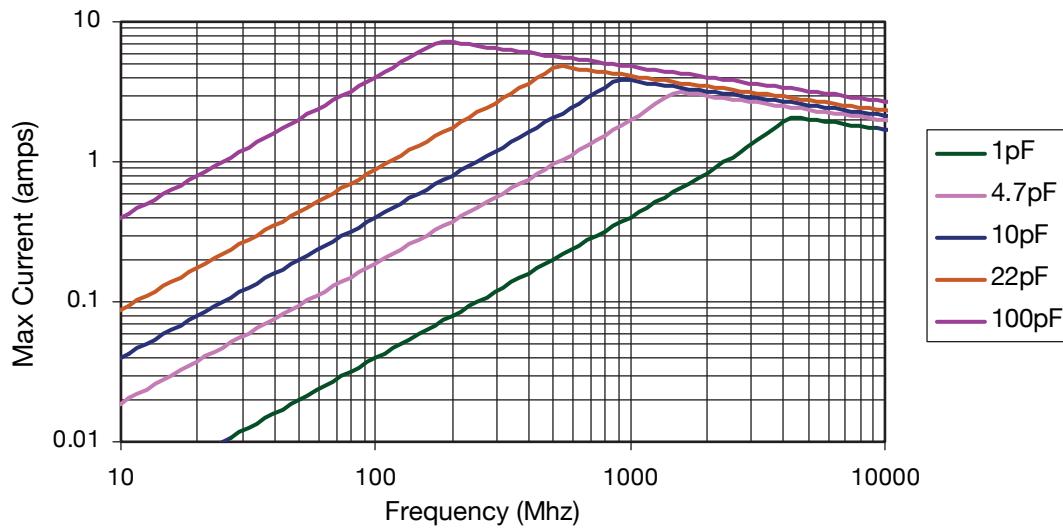
Typical ESR SQCA



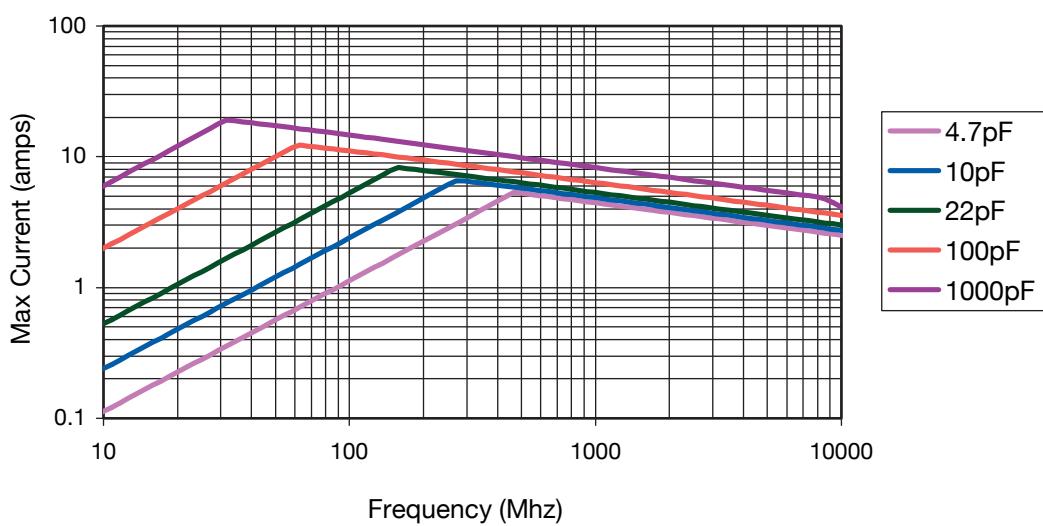
Typical ESR SQCB



SQCA Max Current



SQCB Max Current



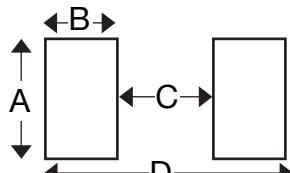
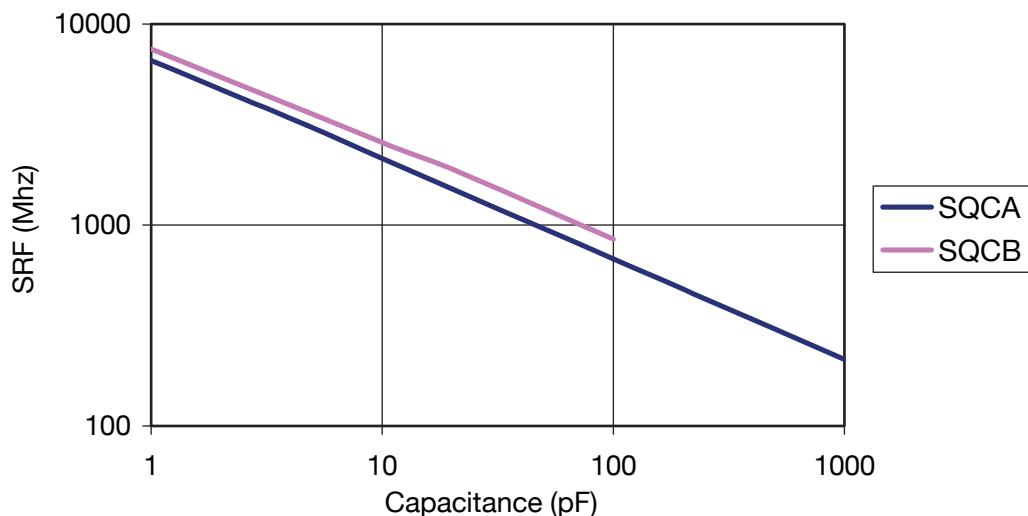
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Series Resonant Frequency



MOUNTING PAD DIMENSIONS:

Case	A min	B min	C min	D min
SQCA	0.082 (2.083)	0.051 (1.295)	0.032 (0.813)	0.130 (3.302)
SQCB	0.131 (3.327)	0.051 (1.295)	0.074 (1.880)	0.177 (4.496)
SQCS	0.038 (0.965)	0.043 (1.092)	0.025 (0.635)	0.112 (2.845)
SQCF	0.059 (1.499)	0.051 (1.295)	0.024 (0.610)	0.125 (3.175)

SQCA & SQCB DESIGN KITS

PN	Series	Diel	Term	Range	Different Values	# per value
KITSQ100LF	SQCA	P90	100% Tin RoHS	.1 to 2pF	16	15
KITSQ400LF	SQCA	C0G	100% Tin RoHS	.1 to 2pF	16	15
KITSQ200LF	SQCA	P90	100% Tin RoHS	1 to 10pF	16	15
KITSQ500LF	SQCA	C0G	100% Tin RoHS	1 to 10pF	16	15
KITSQ300LF	SQCA	P90	100% Tin RoHS	10 to 100pF	16	15
KITSQ600LF	SQCA	C0G	100% Tin RoHS	10 to 100pF	16	15
KITSQ700LF	SQCA	C0G	100% Tin RoHS	100 to 1000pF	16	15
KITSQ800LF	SQCB	P90	100% Tin RoHS	1 to 10pF	16	15
KITSQ1100LF	SQCB	C0G	100% Tin RoHS	1 to 10pF	16	15
KITSQ900LF	SQCB	P90	100% Tin RoHS	10 to 100pF	16	15
KITSQ1200LF	SQCB	C0G	100% Tin RoHS	10 to 100pF	16	15
KITSQ1000LF	SQCB	P90	100% Tin RoHS	100 to 1000pF	16	15
KITSQ1300LF	SQCB	C0G	100% Tin RoHS	100 to 1000pF	16	15
KITSQ1400LF	SQCB	C0G	100% Tin RoHS	1000 to 5100 pF	11	15



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[NMC0402X5R105K6.3TRPF](#) [NMC0402X5R224K6.3TRPF](#) [NMC0402X7R103J25TRPF](#) [NMC0402X7R153K16TRPF](#)
[NMC0402X7R392K50TRPF](#) [NMC0603NPO1R8C50TRPF](#) [NMC0603NPO201J50TRPF](#) [NMC0603NPO330G50TRPF](#)
[NMC0603NPO331F50TRPF](#) [NMC0603X5R475M6.3TRPF](#) [NMC0805NPO220J100TRPF](#) [NMC0805NPO270J50TRPF](#)
[NMC0805NPO681F50TRPF](#) [NMC0805NPO820J50TRPF](#) [NMC1206X7R102K50TRPF](#) [NMC1210Y5V105Z50TRPLPF](#) [NMC-L0402NPO7R0C50TRPF](#) [NMC-L0603NPO2R2B50TRPF](#) [NMC-P1206X7R103K1KVTRPLPF](#) [NMC-Q0402NPO8R2D200TRPF](#)
[C1206C101J1GAC](#) [C1608C0G2A221J](#) [C1608X7R1E334K](#) [C2012C0G2A472J](#) [2220J2K00562KXT](#) [KHC201E225M76N0T00](#)
[1812J2K00332KXT](#) [CCR06CG153FSV](#) [CDR14BP471CJUR](#) [CDR31BX103AKWR](#) [CDR33BX683AKUS](#) [CGA2B2C0G1H010C](#)
[CGA2B2C0G1H040C](#) [CGA2B2C0G1H050C](#) [CGA2B2C0G1H060D](#) [CGA2B2C0G1H070D](#) [CGA2B2C0G1H120J](#) [CGA2B2C0G1H151J](#)
[CGA2B2C0G1H1R5C](#) [CGA2B2C0G1H2R2C](#) [CGA2B2C0G1H390J](#) [CGA2B2C0G1H391J](#) [CGA2B2C0G1H3R3C](#) [CGA2B2C0G1H680J](#)
[CGA2B2C0G1H6R8D](#)