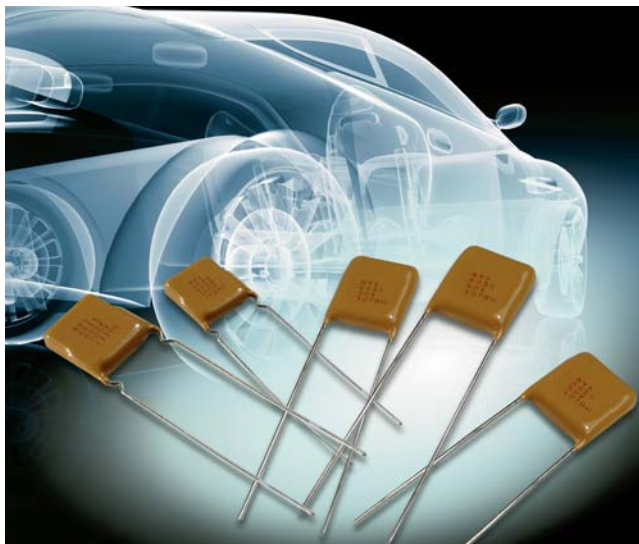


Automotive Grade High Voltage MLC Radials

Application Information on Automotive Grade High Voltage MLC Radials



Automotive grade, AEC-Q200 qualified SV-style capacitors are designed with COG (NPO), class I dielectric that is characterized with very low dielectric losses. This product is designed for AC applications requiring capacitors capable of handling high AC currents at high frequencies.

With emergence of strongly coupled magnetic resonance technology that allows for highly efficient wireless transmission of power to recharge batteries, the need for low loss capacitors is apparent. Thanks to their extremely low dissipation factor, automotive grade SV-style parts can reliably handle high rms currents with minimal power losses in medium to high power resonant converters. Multiple parts in parallel may be required depending on the power transmission levels.

The automotive grade SV-style capacitors are conformally coated eliminating possibility of arc flashover. The leaded construction provides mechanical decoupling of MLCC chip from the board and thus provides effective stress relief required for automotive applications.

COG Dielectric General Specifications

Capacitance Range

1000pF to 0.015 μ F
(+25°C, 1.0 \pm 0.2 Vrms at 1kHz)

Capacitance Tolerances

\pm 5%; \pm 10%; \pm 20%

Operating Temperature Range

-55°C to +125°C

Temperature Characteristic

0 \pm 30 ppm/°C

Voltage Ratings

1000 VDC (+125°C)

Dissipation Factor

0.1% max.
(+25°C, 1.0 \pm 0.2 Vrms at 1kHz,

Insulation Resistance (+25°C, at 500V)

100K M Ω min. or 1000 M Ω - μ F min.,
whichever is less

Insulation Resistance (+125°C, at 500V)

10K M Ω min., or 100 M Ω - μ F min.,
whichever is less

Dielectric Strength

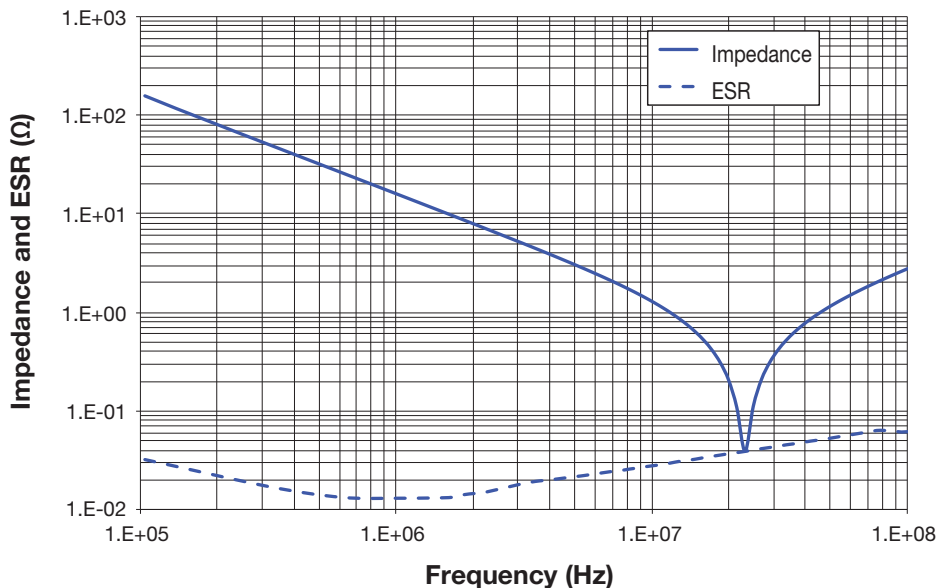
120% rated voltage, 5 seconds

Life Test

100% rated and +125°C

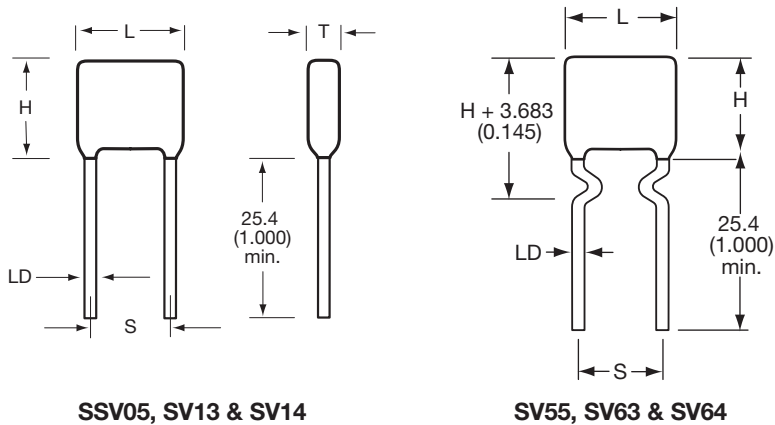
Typical Impedance and ESR Characterization

AVX P/N: SV05AA103K4R



Performance of SMPS capacitors can be simulated by downloading SpiCalci software program -
<http://www.avx.com/SpiApps/default.asp#spicalci>
Custom values, ratings and configurations are also available.

Automotive Grade High Voltage MLC Radials



Not RoHS Compliant



For RoHS compliant products,
please select correct termination style.

AUTOMOTIVE GRADE HIGH VOLTAGE MLC RADIALS HOW TO ORDER

AVX Styles: SV05, SV13 & SV14

SV05	A	A	153	K	4	A	*
AVX Style	Voltage 1000V = A	Temperature Coefficient COG = A	Capacitance Code (2 significant digits + no. of zeros) Examples: 1,000 pF = 102 22,000 pF = 223	Capacitance Tolerance J = ±5% K = ±10% M = ±20%	Test Level 4 = AEC-Q200	Leads A = Tin/Lead R = RoHS Compliant	Packaging (See Note 1)
<p>Note 1: No suffix signifies bulk packaging which is AVX standard packaging. Use suffix "TR1" if tape and reel is required. Parts are reel packaged per EIA-468.</p>							

Note: Capacitors with X7R dielectrics are not intended for applications across AC supply mains or AC line filtering with polarity reversal. Contact plant for recommendations.

*Hi-Rel screening consists of 100% Group A, Subgroup 1 per MIL-PRF-49467. (Except partial discharge testing is not performed and DWV is at 120% rated voltage).

DIMENSIONS

millimeters (inches)

AVX Style	Length (L) max	Height (H) max	Thickness (T) max	Lead Spacing ±.762 (.030) (S)	LD (Nom)
SV05/SV55	11.9 (0.470)	10.2 (0.400)	5.08 (0.200)	9.52 (0.375)	0.64 (0.025)
SV13/SV63	7.62 (0.300)	9.14 (0.360)	5.08 (0.200)	5.08 (0.200)	0.51 (0.020)
SV14/SV64	10.2 (0.400)	11.7 (0.460)	5.08 (0.200)	5.08 (0.200)	0.51 (0.020)

TAPE & REEL QUANTITY	
Part	Pieces
SV05/SV55	1000
SV13/SV63	1000
SV14/SV64	1000

CAPACITANCE VALUE

COG	
Style	1000V min./max.
SV05/SV55	1000 pF / 0.015 μF
SV13/SV63	1000 pF / 8200 pF
SV14/SV64	1000 pF / 0.015 μF