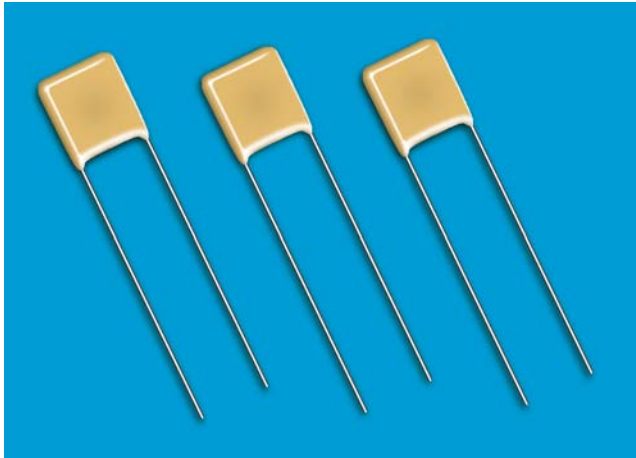


High Voltage MLC Radials (SV Style)



Application Information on High Voltage MLC Capacitors



High value, low leakage and small size are difficult parameters to obtain in capacitors for high voltage systems. AVX special high voltage MLC radial leaded capacitors meet these performance characteristics. The added advantage of these capacitors lies in special internal design minimizing the electric field stresses within the MLC. These special design criteria result in significant reduction of partial discharge activity within the dielectric and having, therefore, a major impact on long-term reliability of the product. The SV high voltage radial capacitors are conformally coated with high insulation resistance, high dielectric strength epoxy eliminating the possibility of arc flashover.

The SV high voltage radial MLC designs exhibit low ESRs at high frequency. The same criteria governing the high voltage design carries the added benefits of extremely low ESR in relatively low capacitance and small packages. These capacitors are designed and are ideally suited for applications such as snubbers in high frequency power converters, resonators in SMPS, and high voltage coupling/DC blocking.

COG Dielectric General Specifications

Capacitance Range

10 pF to .15 μ F
(+25°C, 1.0 \pm 0.2 Vrms at 1kHz,
for \leq 100 pF use 1 MHz)

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

600 VDC thru 5000 VDC (+125°C)

Dissipation Factor

0.15% max.
(+25°C, 1.0 \pm 0.2 Vrms at 1kHz,
for \leq 100 pF use 1 MHz)

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

X7R Dielectric General Specifications

Capacitance Range

100 pF to 2.2 μ F
(+25°C, 1.0 \pm 0.2 Vrms at 1kHz)

Capacitance Tolerances

\pm 10%; \pm 20%; +80%, -20%

Operating Temperature Range

-55°C to +125°C

Temperature Characteristic

\pm 15% (0 VDC)

Voltage Ratings

600 VDC thru 5000 VDC (+125°C)

Dissipation Factor

2.5% 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

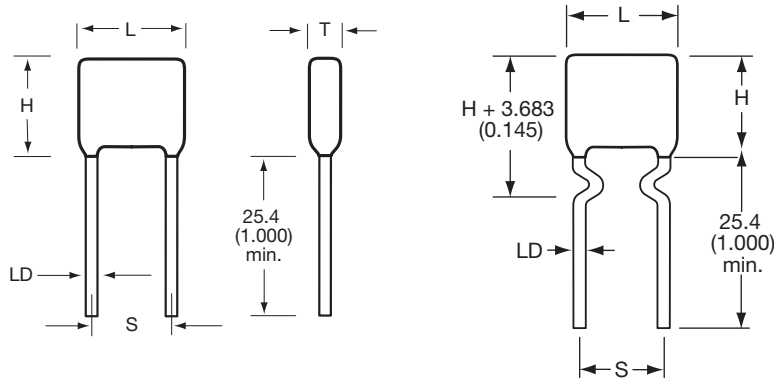
Dielectric Strength

120% rated voltage, 5 seconds

Life Test

100% rated and +125°C

High Voltage MLC Radials (SV Style)



SV01 thru SV17

SV52 thru SV59 and SV63 thru SV67

HIGH VOLTAGE RADIAL LEAD HOW TO ORDER

AVX Styles: SV01 THRU SV67

| | | | | | | | |
|---|--|--------------------------------|--|---|-----------------------------|---------------------------------------|------------------|
| SV01 | A | A | 102 | K | A | A | * |
| AVX Style | Voltage | Temperature Coefficient | Capacitance Code | Capacitance Tolerance | Test Level | Leads | Packaging |
| | 600V/630V = C 1000V = A 1500V = S 2000V = G 2500V = W 3000V = H 4000V = J 5000V = K | COG = A X7R = C | (2 significant digits + no. of zeros) Examples: 10 pF = 100 100 pF = 101 1,000 pF = 102 22,000 pF = 223 220,000 pF = 224 1 μF = 105 | C0G: J = ±5% K = ±10% M = ±20% X7R: K = ±10% M = ±20% Z = +80 -20% | A = Standard B = Hi-Rel* | A = Tin/Lead R = RoHS Compliant | (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) |
|-----------|----------------|----------------|-------------------|-------------------------------|--------------|
| SV01 | 6.35 (0.250) | 5.59 (0.220) | 5.08 (0.200) | 4.32 (0.170) | 0.64 (0.025) |
| SV02/SV52 | 8.13 (0.320) | 7.11 (0.280) | 5.08 (0.200) | 5.59 (0.220) | 0.64 (0.025) |
| SV03/SV53 | 9.40 (0.370) | 7.62 (0.300) | 5.08 (0.200) | 6.99 (0.275) | 0.64 (0.025) |
| SV04/SV54 | 11.4 (0.450) | 5.59 (0.220) | 5.08 (0.200) | 7.62 (0.300) | 0.64 (0.025) |
| SV05/SV55 | 11.9 (0.470) | 10.2 (0.400) | 5.08 (0.200) | 9.52 (0.375) | 0.64 (0.025) |
| SV06/SV56 | 14.0 (0.550) | 7.11 (0.280) | 5.08 (0.200) | 10.16 (0.400) | 0.64 (0.025) |
| SV07/SV57 | 14.5 (0.570) | 12.7 (0.500) | 5.08 (0.200) | 12.1 (0.475) | 0.64 (0.025) |
| SV08/SV58 | 17.0 (0.670) | 15.2 (0.600) | 5.08 (0.200) | 14.6 (0.575) | 0.64 (0.025) |
| SV09/SV59 | 19.6 (0.770) | 18.3 (0.720) | 5.08 (0.200) | 17.1 (0.675) | 0.64 (0.025) |
| SV10 | 26.7 (1.050) | 12.7 (0.500) | 5.08 (0.200) | 22.9 (0.900) | 0.64 (0.025) |
| SV11 | 31.8 (1.250) | 15.2 (0.600) | 5.08 (0.200) | 27.9 (1.100) | 0.64 (0.025) |
| SV12 | 36.8 (1.450) | 18.3 (0.720) | 5.08 (0.200) | 33.0 (1.300) | 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) |
| SV15/SV65 | 12.7 (0.500) | 14.2 (0.560) | 5.08 (0.200) | 10.2 (0.400) | 0.64 (0.025) |
| SV16/SV66 | 22.1 (0.870) | 16.8 (0.660) | 5.08 (0.200) | 20.1 (0.790) | 0.81 (0.032) |
| SV17/SV67 | 23.6 (0.930) | 19.8 (0.780) | 6.35 (0.250) | 20.3 (0.800) | 0.81 (0.032) |

| TAPE & REEL QUANTITY | |
|----------------------|--------|
| Part | Pieces |
| SV01 | 1000 |
| SV02/SV52 | 1000 |
| SV03/SV53 | 1000 |
| SV04/SV54 | 1000 |
| SV05/SV55 | 1000 |
| SV06/SV56 | 500 |
| SV07/SV57 | 500 |
| SV08/SV58 | 500 |
| SV09/SV59 | 500 |
| SV10 | N/A |
| SV11 | N/A |
| SV12 | N/A |
| SV13/SV63 | 1000 |
| SV14/SV64 | 1000 |
| SV15/SV65 | 500 |
| SV16/SV66 | 500 |
| SV17/SV67 | 400 |

| RoHS | |
|-----------|-----------|
| Part | Available |
| SV01 | Yes |
| SV02/SV52 | Yes |
| SV03/SV53 | Yes |
| SV04/SV54 | Yes |
| SV05/SV55 | Yes |
| SV06/SV56 | Yes |
| SV07/SV57 | Yes |
| SV08/SV58 | Yes |
| SV09/SV59 | Yes |
| SV10 | Yes |
| SV11 | Yes |
| SV12 | Yes |
| SV13/SV63 | Yes |
| SV14/SV64 | Yes |
| SV15/SV65 | Yes |
| SV16/SV66 | Yes |
| SV17/SV67 | Yes |



CAPACITANCE VALUE

| C0G | | | | | | | | |
|-----------|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Style | 600/630V min./max. | 1000V min./max. | 1500V min./max. | 2000V min./max. | 2500V min./max. | 3000V min./max. | 4000V min./max. | 5000V min./max. |
| SV01 | 100 pF / 1500 pF | 100 pF / 1000 pF | 10 pF / 330 pF | 10 pF / 220 pF | 10 pF / 120 pF | 10 pF / 82 pF | — | — |
| SV02/SV52 | 100 pF / 6800 pF | 100 pF / 4700 pF | 100 pF / 1500 pF | 10 pF / 1000 pF | 10 pF / 680 pF | 10 pF / 560 pF | 10 pF / 150 pF | 10 pF / 100 pF |
| SV03/SV53 | 100 pF / 0.012 μF | 100 pF / 8200 pF | 100 pF / 2700 pF | 100 pF / 1800 pF | 10 pF / 1000 pF | 10 pF / 680 pF | 10 pF / 390 pF | 10 pF / 220 pF |
| SV04/SV54 | 100 pF / 3900 pF | 100 pF / 2700 pF | 10 pF / 820 pF | 10 pF / 560 pF | 10 pF / 270 pF | 10 pF / 180 pF | 10 pF / 100 pF | 10 pF / 68 pF |
| SV05/SV55 | 1000 pF / 0.027 μF | 1000 pF / 0.018 μF | 100 pF / 6800 pF | 100 pF / 4700 pF | 100 pF / 2700 pF | 100 pF / 1500 pF | 10 pF / 1000 pF | 10 pF / 560 pF |
| SV06/SV56 | 100 pF / 0.012 μF | 100 pF / 0.010 μF | 100 pF / 3300 pF | 100 pF / 2200 pF | 10 pF / 1200 pF | 10 pF / 820 pF | 10 pF / 470 pF | 10 pF / 390 pF |
| SV07/SV57 | 1000 pF / 0.056 μF | 1000 pF / 0.033 μF | 1000 pF / 0.015 μF | 100 pF / 0.010 μF | 100 pF / 5600 pF | 100 pF / 3900 pF | 100 pF / 2200 pF | 10 pF / 1200 pF |
| SV08/SV58 | 1000 pF / 0.082 μF | 1000 pF / 0.047 μF | 1000 pF / 0.022 μF | 1000 pF / 0.015 μF | 100 pF / 0.010 μF | 100 pF / 6800 pF | 100 pF / 3300 pF | 100 pF / 2200 pF |
| SV09/SV59 | 1000 pF / 0.150 μF | 1000 pF / 0.082 μF | 1000 pF / 0.039 μF | 1000 pF / 0.022 μF | 1000 pF / 0.015 μF | 100 pF / 8200 pF | 100 pF / 4700 pF | 100 pF / 3300 pF |
| SV10 | 1000 pF / 0.100 μF | 1000 pF / 0.056 μF | 1000 pF / 0.022 μF | 1000 pF / 0.012 μF | 100 pF / 8200 pF | 100 pF / 5600 pF | 100 pF / 3300 pF | 100 pF / 2200 pF |
| SV11 | 1000 pF / 0.150 μF | 1000 pF / 0.082 μF | 1000 pF / 0.039 μF | 1000 pF / 0.022 μF | 1000 pF / 0.015 μF | 100 pF / 8200 pF | 100 pF / 4700 pF | 100 pF / 3300 pF |
| SV12 | 0.01 μF / 0.220 μF | 0.01 μF / 0.15 μF | 1000 pF / 0.056 μF | 1000 pF / 0.033 μF | 1000 pF / 0.022 μF | 1000 pF / 0.015 μF | 100 pF / 8200 pF | 100 pF / 5600 pF |
| SV13/SV63 | 100 pF / 0.018 μF | 100 pF / 0.012 μF | 100 pF / 4700 pF | 100 pF / 2700 pF | 100 pF / 1800 pF | 100 pF / 1000 pF | 10 pF / 470 pF | 10 pF / 390 pF |
| SV14/SV64 | 1000 pF / 0.039 μF | 1000 pF / 0.022 μF | 100 pF / 8200 pF | 100 pF / 5600 pF | 100 pF / 3300 pF | 100 pF / 1800 pF | 10 pF / 820 pF | 10 pF / 680 pF |
| SV15/SV65 | 1000 pF / 0.056 μF | 1000 pF / 0.033 μF | 1000 pF / 0.015 μF | 100 pF / 0.01 μF | 100 pF / 5600 pF | 100 pF / 2700 pF | 100 pF / 1800 pF | 100 pF / 1200 pF |
| SV16/SV66 | 1000 pF / 0.120 μF | 1000 pF / 0.082 μF | 1000 pF / 0.039 μF | 1000 pF / 0.027 μF | 1000 pF / 0.015 μF | 100 pF / 8200 pF | 100 pF / 4700 pF | 100 pF / 3300 pF |
| SV17/SV67 | 1000 pF / 0.150 μF | 1000 pF / 0.10 μF | 1000 pF / 0.056 μF | 1000 pF / 0.039 μF | 1000 pF / 0.022 μF | 1000 pF / 0.012 μF | 100 pF / 6800 pF | 100 pF / 4700 pF |
| X7R | | | | | | | | |
| SV01 | 1000 pF / 0.018 μF | 1000 pF / 0.012 μF | 100 pF / 5600 pF | 100 pF / 3900 pF | — | — | — | — |
| SV02/SV52 | 1000 pF / 0.082 μF | 1000 pF / 0.047 μF | 1000 pF / 0.015 μF | 100 pF / 6800 pF | 100 pF / 3900 pF | 100 pF / 2700 pF | — | — |
| SV03/SV53 | 1000 pF / 0.180 μF | 1000 pF / 0.082 μF | 1000 pF / 0.018 μF | 1000 pF / 0.01 μF | 100 pF / 6800 pF | 100 pF / 4700 pF | 100 pF / 1800 pF | — |
| SV04/SV54 | 1000 pF / 0.056 μF | 1000 pF / 0.033 μF | 100 pF / 6800 pF | 100 pF / 3900 pF | 100 pF / 2200 pF | 100 pF / 1800 pF | 100 pF / 820 pF | — |
| SV05/SV55 | 0.01 μF / 0.470 μF | 0.01 μF / 0.22 μF | 1000 pF / 0.056 μF | 1000 pF / 0.027 μF | 1000 pF / 0.018 μF | 1000 pF / 0.012 μF | 100 pF / 4700 pF | — |
| SV06/SV56 | 0.01 μF / 0.180 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.033 μF | 1000 pF / 0.012 μF | 100 pF / 8200 pF | 100 pF / 6800 pF | 100 pF / 2700 pF | 100 pF / 1200 pF |
| SV07/SV57 | 0.01 μF / 0.820 μF | 0.01 μF / 0.39 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.047 μF | 1000 pF / 0.033 μF | 1000 pF / 0.027 μF | 1000 pF / 0.01 μF | 100 pF / 6800 pF |
| SV08/SV58 | 0.01 μF / 1.20 μF | 0.01 μF / 0.68 μF | 0.01 μF / 0.18 μF | 1000 pF / 0.082 μF | 1000 pF / 0.068 μF | 1000 pF / 0.047 μF | 1000 pF / 0.018 μF | 1000 pF / 0.012 μF |
| SV09/SV59 | 0.10 μF / 1.80 μF | 0.10 μF / 1.00 μF | 0.01 μF / 0.27 μF | 0.01 μF / 0.12 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.068 μF | 1000 pF / 0.027 μF | 1000 pF / 0.018 μF |
| SV10 | 0.01 μF / 1.50 μF | 0.01 μF / 0.82 μF | 0.01 μF / 0.22 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.082 μF | 1000 pF / 0.056 μF | 1000 pF / 0.022 μF | 1000 pF / 0.022 μF |
| SV11 | 0.10 μF / 2.20 μF | 0.10 μF / 1.2 μF | 0.01 μF / 0.39 μF | 0.01 μF / 0.18 μF | 0.01 μF / 0.15 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.039 μF | 1000 pF / 0.027 μF |
| SV12 | 0.10 μF / 3.90 μF | 0.10 μF / 2.20 μF | 0.01 μF / 0.56 μF | 0.01 μF / 0.27 μF | 0.01 μF / 0.22 μF | 0.01 μF / 0.15 μF | 1000 pF / 0.056 μF | 1000 pF / 0.033 μF |
| SV13/SV63 | 0.01 μF / 0.270 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.033 μF | 1000 pF / 0.012 μF | 1000 pF / 0.01 μF | 100 pF / 6800 pF | 100 pF / 2700 pF | — |
| SV14/SV64 | 0.01 μF / 0.470 μF | 0.01 μF / 0.18 μF | 1000 pF / 0.068 μF | 1000 pF / 0.022 μF | 1000 pF / 0.018 μF | 1000 pF / 0.015 μF | 100 pF / 5600 pF | — |
| SV15/SV65 | 0.01 μF / 0.680 μF | 0.01 μF / 0.33 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.033 μF | 1000 pF / 0.027 μF | 1000 pF / 0.022 μF | 1000 pF / 8200 pF | 100 pF / 4700 pF |
| SV16/SV66 | 0.01 μF / 1.80 μF | 0.01 μF / 1.0 μF | 0.01 μF / 0.27 μF | 0.01 μF / 0.12 μF | 0.01 μF / 0.10 μF | 1000 pF / 0.068 μF | 1000 pF / 0.027 μF | 1000 pF / 0.018 μF |
| SV17/SV67 | 0.01 μF / 2.20 μF | 0.01 μF / 1.2 μF | 0.01 μF / 0.39 μF | 0.01 μF / 0.15 μF | 0.01 μF / 0.12 μF | 1000 pF / 0.082 μF | 1000 pF / 0.039 μF | 1000 pF / 0.027 μF |

Note: Contact factory for other voltage ratings or values.

AVX IS QUALIFIED TO THE FOLLOWING DSCC DRAWINGS

| Specification # | Description | Capacitance Range |
|-----------------|--------------|-------------------|
| 87046 | C0G-1000 VDC | 10 pF - 0.025 μF |
| 87043 | X7R-1000 VDC | 100 pF - 0.47 μF |
| 87040 | X7R-2000 VDC | 100 pF - 0.22 μF |
| 87114 | C0G-3000 VDC | 10 pF - 8200 pF |
| 87047 | X7R-3000 VDC | 100 pF - 0.1 μF |
| 87076 | C0G-4000 VDC | 10 pF - 6800 pF |
| 89044 | X7R-4000 VDC | 100 pF - 0.056 μF |
| 87077 | C0G-5000 VDC | 10 pF - 5600 pF |
| 87070 | X7R-5000 VDC | 100 pF - 0.033 μF |

These specifications require group A and B testing per MIL-PRF-49467

Note: Customers may accept, at their discretion, a certificate of compliance with group B requirements in lieu of performing group B tests.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Multilayer Ceramic Capacitors MLCC - Leaded](#) category:

Click to view products by [AVX](#) manufacturer:

Other Similar products are found below :

[010-007220-002REV A](#) [M39014/01-1210V](#) [M39014/01-1281V](#) [M39014/01-1335V](#) [M39014/01-1571V](#) [M39014/01-1578V](#) [M39014/01-1593](#)
[M39014/02-1347](#) [M39014/02-1350](#) [M39014/22-0167](#) [M39014/22-0734](#) [87043-49](#) [Q52-DK](#) [C410C221K1G5TATR](#) [C420C102J1G5TATR](#)
[C430C104M1U5TATR](#) [SL155C222MAB](#) [CCR06CG183GRV](#) [CFB1/2C101J](#) [CFB1/2C102J](#) [CN20C102K](#) [M39014/01-1317](#) [M39014/01-](#)
[1572V](#) [M39014/01-1594V](#) [M39014/02-1236](#) [M39014/02-1321V](#) [M39014/02-1345V](#) [M39014/22-0351](#) [M39014/22-0695](#) [M39014/220767](#)
[M39014/220788](#) [M39014/22-1005](#) [MA405E334MAA](#) [MD015A103KAB](#) [SL301E105MAB](#) [KTD101B684M32A0B00](#) [CCR07CG473KR](#)
[CCR05CG820JP](#) [TKC-TMC1206-05-1501-J??](#) [TKC-TMC1206-05-1801-J](#) [TKC-TMC1206-05-20R0-F](#) [TKC-TMC1206-05-3901-J](#) [TKC-](#)
[TMC1206-05-44R2-F](#) [TKC-TMC1206-05-4703-J??](#) [TKC-TMC2512-05-1211-F](#) [100B5R1CT500X](#) [100B3R9CT500X](#) [M39014/22-0869](#)
[M39014/220556](#) [M39014/22-1045](#)