

High Voltage DIP Ledged (HV Style)

COG Dielectric General Specifications

Capacitance Range
100 pF to 1.2 μ F
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz, 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
1000 VDC thru 5000 VDC (+125°C)

Dissipation Factor
0.15% max.
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz, 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

N1500 General Specifications

Capacitance Range
100 pF to 1.9 μ F
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

Capacitance Tolerances
 \pm 5%, \pm 10%, \pm 20%

Operating Temperature Range
-55°C to +125°C

Temperature Characteristic
-1500 \pm 250 ppm/°C

Voltage Ratings
1000 VDC thru 5000 VDC (+125°C)

Dissipation Factor
0.15% max.
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

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 15 μ F
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

Capacitance Tolerances
 \pm 10%, \pm 20%, +80%, -20%

Operating Temperature Range
-55°C to +125°C

Temperature Characteristic
 \pm 15% (0 VDC)

Voltage Ratings
1000 VDC thru 5000 VDC (+125°C)

Dissipation Factor
2.5% max.
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

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

HOW TO ORDER

AVX Styles: HV01 THRU HV06

| HV | 01 | A | C | 105 | M | A | N | 650 |
|------------------|---|--|---|--|--|---|--|--|
| AVX Style | Size See Dimensions chart | Voltage 1K = A 2K = G 3K = H 4K = J 5K = K | Temperature Coefficient COG = A X7R = C N1500 = 4 | Capacitance Code (2 significant digits + number of zeros) 10 pF = 100 100 pF = 101 1,000 pF = 102 22,000 pF = 223 220,000 pF = 224 1 μ F = 105 10 μ F = 106 100 μ F = 107 | Capacitance Tolerance COG: J = \pm 5% K = \pm 10% M = \pm 20% X7R: K = \pm 10% M = \pm 20% Z = +80%, -20% N1500: J = \pm 5% K = \pm 10% M = \pm 20% | Test Level A = Does not apply | Termination N = Straight Lead J = Leads formed in L = Leads formed out P = P Style Leads Z = Z Style Leads | Height Max Dimension "A" 120 = 0.120" 240 = 0.240" 360 = 0.360" 480 = 0.480" 650 = 0.650" |

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.

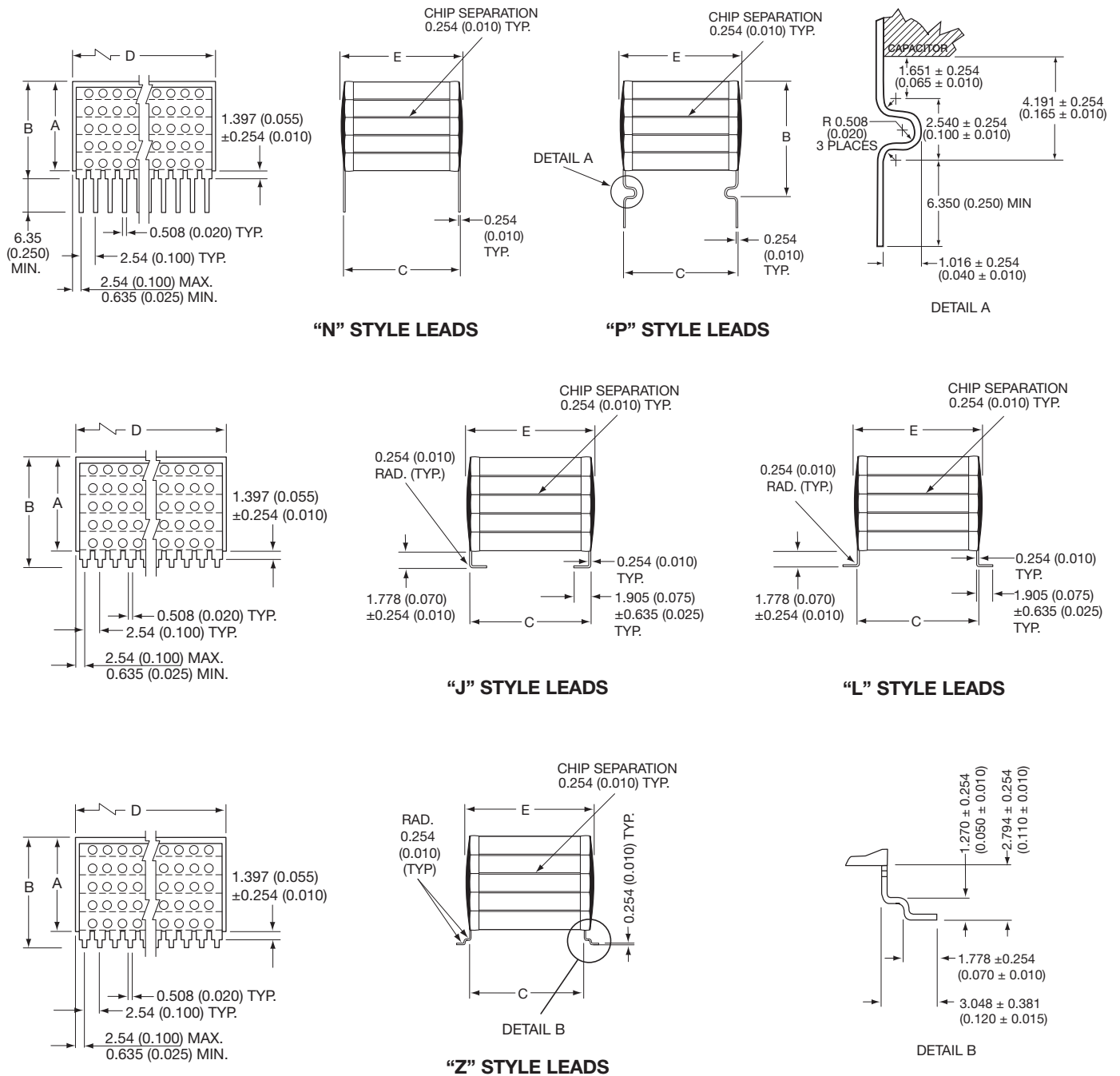
Not RoHS Compliant



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.

High Voltage DIP Ledged (HV Style)

Surface Mount and Thru-Hole HV Styles



DIMENSIONS

millimeters (inches)

| Style | A (max.) | B (max.) | C ±.635 (±0.025) | D ±.635 (±0.025) | E (max.) | No. of Leads per side |
|-------|---------------------------------------|--|------------------|------------------|--------------|-----------------------|
| HV01 | See page 78 for maximum "A" Dimension | For "N" Style Leads: "A" Dimension Plus 1.651 (0.065) For "J" & "L" Style Leads: "A" Dimension Plus 2.032 (0.080) For "P" Style Leads: "A" Dimension Plus 4.445 (0.175) For "Z" Style Leads: "A" Dimension Plus 3.048 (0.120) | 53.3 (2.100) | 10.5 (0.415) | 54.9 (2.160) | 4 |
| HV02 | | | 39.1 (1.540) | 20.3 (0.800) | 40.7 (1.600) | 8 |
| HV03 | | | 27.2 (1.070) | 10.5 (0.415) | 28.2 (1.130) | 4 |
| HV04 | | | 10.2 (0.400) | 10.2 (0.400) | 11.2 (0.440) | 4 |
| HV05 | | | 6.35 (0.250) | 6.35 (0.250) | 7.62 (0.300) | 3 |
| HV06 | | | 53.3 (2.100) | 29.0 (1.140) | 54.9 (2.160) | 11 |

High Voltage DIP Ledged (HV Style)

Surface Mount and Thru-Hole HV Styles

Max Capacitance (µF) Available Versus Style with Height (A) of 0.120" - 3.05mm

| AVX STYLE | HV01 _____ AN120 | | | | | HV02 _____ AN120 | | | | | HV03 _____ AN120 | | | | | HV04 _____ AN120 | | | | | HV05 _____ AN120 | | HV06 _____ AN120 | | | | |
|--------------|------------------|------|------|-------|-------|------------------|------|------|-------|-------|------------------|------|-------|-------|-------|------------------|-------|-------|-------|-------|------------------|-------|------------------|------|------|------|------|
| | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 1KV | 2KV | 3KV | 4KV | 5KV |
| COG | .086 | .024 | .011 | .0062 | .0052 | .120 | .034 | .015 | .0088 | .0074 | .042 | .013 | .0058 | .0030 | .0024 | .012 | .0040 | .0018 | .0009 | .0007 | .0048 | .0013 | .240 | .066 | .028 | .018 | .015 |
| N1500 | .140 | .042 | .018 | .010 | .0084 | .200 | .058 | .024 | .014 | .012 | .068 | .020 | .0090 | .0050 | .0040 | .020 | .0066 | .0028 | .0014 | .0012 | .0078 | .0022 | .380 | .100 | .046 | .030 | .026 |
| X7R | 1.10 | .260 | .150 | .066 | .052 | 1.50 | .360 | .200 | .094 | .078 | .520 | .130 | .072 | .032 | .024 | .160 | .042 | --- | --- | --- | .060 | --- | 3.00 | .700 | .440 | .200 | .170 |

Max Capacitance (µF) Available Versus Style with Height (A) of 0.240" - 6.10mm

| AVX STYLE | HV01 _____ AN240 | | | | | HV02 _____ AN240 | | | | | HV03 _____ AN240 | | | | | HV04 _____ AN240 | | | | | HV05 _____ AN240 | | HV06 _____ AN240 | | | | |
|--------------|------------------|------|------|------|------|------------------|------|------|------|------|------------------|------|------|-------|-------|------------------|-------|-------|-------|-------|------------------|-------|------------------|------|------|------|------|
| | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 1KV | 2KV | 3KV | 4KV | 5KV |
| COG | .170 | .048 | .022 | .012 | .010 | .240 | .068 | .031 | .017 | .015 | .084 | .026 | .011 | .0060 | .0048 | .025 | .0082 | .0036 | .0018 | .0014 | .0096 | .0027 | .480 | .130 | .056 | .036 | .031 |
| N1500 | .280 | .084 | .036 | .020 | .016 | .400 | .110 | .048 | .028 | .024 | .130 | .040 | .018 | .010 | .0080 | .040 | .013 | .0056 | .0028 | .0025 | .015 | .0044 | .760 | .210 | .092 | .060 | .052 |
| X7R | 2.20 | .520 | .300 | .130 | .100 | 3.10 | .720 | .400 | .180 | .150 | 1.00 | .270 | .140 | .064 | .048 | .330 | .084 | --- | --- | --- | .120 | --- | 6.00 | 1.40 | .880 | .400 | .340 |

Max Capacitance (µF) Available Versus Style with Height (A) of 0.360" - 9.15mm

| AVX STYLE | HV01 _____ AN360 | | | | | HV02 _____ AN360 | | | | | HV03 _____ AN360 | | | | | HV04 _____ AN360 | | | | | HV05 _____ AN360 | | HV06 _____ AN360 | | | | |
|--------------|------------------|------|------|------|------|------------------|------|------|------|------|------------------|------|------|-------|-------|------------------|------|-------|-------|-------|------------------|-------|------------------|------|------|------|------|
| | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 1KV | 2KV | 3KV | 4KV | 5KV |
| COG | .250 | .072 | .033 | .018 | .015 | .360 | .100 | .047 | .026 | .022 | .120 | .039 | .017 | .0090 | .0072 | .038 | .012 | .0054 | .0027 | .0022 | .014 | .0040 | .720 | .200 | .084 | .055 | .047 |
| N1500 | .420 | .120 | .055 | .030 | .025 | .600 | .170 | .072 | .043 | .036 | .200 | .060 | .027 | .015 | .012 | .060 | .020 | .0084 | .0043 | .0037 | .023 | .0066 | 1.10 | .310 | .130 | .090 | .078 |
| X7R | 3.30 | .780 | .450 | .200 | .150 | 4.70 | 1.00 | .600 | .280 | .230 | 1.50 | .410 | .210 | .096 | .072 | .490 | .120 | --- | --- | --- | .180 | --- | 9.00 | 2.10 | 1.30 | .600 | .510 |

Max Capacitance (µF) Available Versus Style with Height (A) of 0.480" - 12.2mm

| AVX STYLE | HV01 _____ AN480 | | | | | HV02 _____ AN480 | | | | | HV03 _____ AN480 | | | | | HV04 _____ AN480 | | | | | HV05 _____ AN480 | | HV06 _____ AN480 | | | | |
|--------------|------------------|------|------|------|------|------------------|------|------|------|------|------------------|------|------|------|-------|------------------|------|-------|-------|-------|------------------|-------|------------------|------|------|------|------|
| | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 1KV | 2KV | 3KV | 4KV | 5KV |
| COG | .340 | .096 | .044 | .024 | .020 | .480 | .130 | .063 | .035 | .030 | .160 | .052 | .023 | .012 | .0096 | .051 | .016 | .0072 | .0036 | .0029 | .019 | .0054 | .960 | .260 | .110 | .073 | .062 |
| N1500 | .560 | .160 | .073 | .040 | .033 | .800 | .230 | .096 | .057 | .048 | .270 | .080 | .036 | .020 | .016 | .080 | .026 | .011 | .0057 | .0050 | .031 | .0088 | 1.50 | .420 | .180 | .120 | .100 |
| X7R | 4.40 | 1.00 | .600 | .260 | .200 | 6.30 | 1.40 | .800 | .370 | .310 | 2.00 | .550 | .280 | .120 | .096 | .650 | .160 | --- | --- | --- | .240 | --- | 12.0 | 2.80 | 1.70 | .800 | .68 |

Max Capacitance (µF) Available Versus Style with Height (A) of 0.650" - 16.5mm

| AVX STYLE | HV01 _____ AN650 | | | | | HV02 _____ AN650 | | | | | HV03 _____ AN650 | | | | | HV04 _____ AN650 | | | | | HV05 _____ AN650 | | HV06 _____ AN650 | | | | |
|--------------|------------------|------|------|------|------|------------------|------|------|------|------|------------------|------|------|------|------|------------------|------|------|-------|-------|------------------|-------|------------------|------|------|------|------|
| | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 3KV | 4KV | 5KV | 1KV | 2KV | 1KV | 2KV | 3KV | 4KV | 5KV |
| COG | .430 | .120 | .056 | .031 | .026 | .610 | .170 | .079 | .044 | .037 | .210 | .065 | .029 | .015 | .012 | .064 | .020 | .009 | .0045 | .0037 | .024 | .0068 | 1.20 | .330 | .140 | .092 | .078 |
| N1500 | .700 | .210 | .092 | .050 | .042 | 1.00 | .290 | .120 | .072 | .060 | .340 | .100 | .045 | .025 | .020 | .100 | .033 | .014 | .0072 | .0063 | .039 | .011 | 1.90 | .530 | .230 | .150 | .130 |
| X7R | 5.50 | 1.30 | .750 | .330 | .260 | 7.90 | 1.80 | 1.00 | .470 | .390 | 2.60 | .690 | .360 | .160 | .120 | .820 | .210 | --- | --- | --- | .300 | --- | 15.0 | 3.50 | 2.20 | 1.00 | .850 |