

# High Voltage MLC Leaded Chips

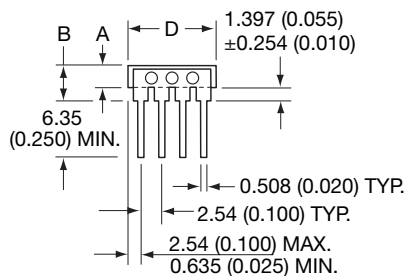
For 600V to 5000V Applications

## HOW TO ORDER

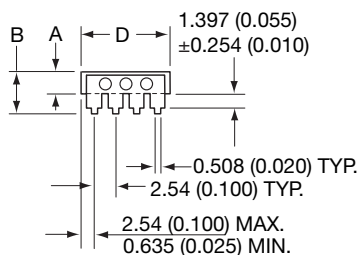
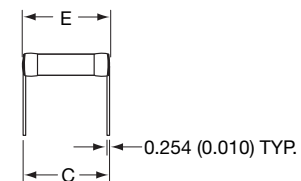
| 1825      | A             | A                       | 271                                   | K                     | A            | V                | 00N                    |
|-----------|---------------|-------------------------|---------------------------------------|-----------------------|--------------|------------------|------------------------|
| AVX Style | Voltage       | Temperature Coefficient | Capacitance Code                      | Capacitance Tolerance | Test Level   | Finish           | Lead Style             |
| 1825      | 600V/630V = C | C0G = A                 | (2 significant digits + no. of zeros) | C0G: J = $\pm 5\%$    | A = Standard | V = Uncoated     | 00N = Straight Lead    |
| 2225      | 1000V = A     | X7R = C                 | Examples:                             | K = $\pm 10\%$        |              | W = Epoxy Coated | 00J = Leads Formed In  |
| 3640      | 1500V = S     |                         | 10 pF = 100                           | M = $\pm 20\%$        |              |                  | 00L = Leads Formed Out |
|           | 2000V = G     |                         | 100 pF = 101                          | X7R: K = $\pm 10\%$   |              |                  |                        |
|           | 2500V = W     |                         | 1,000 pF = 102                        | M = $\pm 20\%$        |              |                  |                        |
|           | 3000V = H     |                         | 22,000 pF = 223                       | Z = +80%, -20%        |              |                  |                        |
|           | 4000V = J     |                         | 220,000 pF = 224                      |                       |              |                  |                        |
|           | 5000V = K     |                         |                                       |                       |              |                  |                        |

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. Capacitors may require protective surface coating to prevent external arcing.

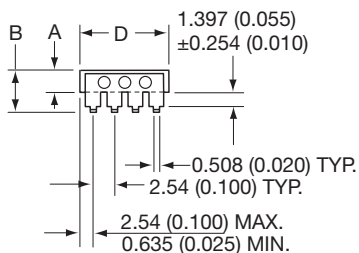
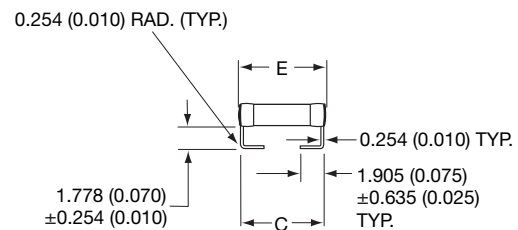
**Not RoHS Compliant**



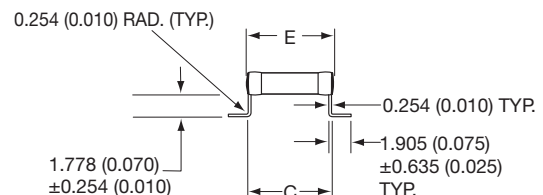
**"N" STYLE LEADS**



**"J" STYLE LEADS**



**"L" STYLE LEADS**



## DIMENSIONS

millimeters (inches)

| Style | A (max.)     | B (max.)                                          | C $\pm 0.635$ ( $\pm 0.025$ ) | D $\pm 0.635$ ( $\pm 0.025$ ) | E (max.)     | No. of Leads per side |
|-------|--------------|---------------------------------------------------|-------------------------------|-------------------------------|--------------|-----------------------|
| 1825  | 2.54 (0.100) | For "N" Style Leads, "B" Dimension = 4.19 (0.165) | 5.08 (0.200)                  | 6.35 (0.250)                  | 6.86 (0.270) | 3                     |
| 2225  |              | For "J" & "L" Leads, "B" Dimension = 4.58 (0.180) | 6.35 (0.250)                  | 6.35 (0.250)                  | 7.62 (0.300) | 3                     |
| 3640  |              |                                                   | 10.2 (0.400)                  | 10.2 (0.400)                  | 11.2 (0.440) | 4                     |

Note: For W (Epoxy Coated) part add 0.127 (0.005) to max. and nominal dimensions A, B, D, & E



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 MLC Leaded Chips

## For 600V to 5000V Applications

### C0G Dielectric

#### Performance Characteristics

|                                                   |                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Capacitance Range</b>                          | 10 pF to 0.047 $\mu$ F<br>(25°C, 1.0 $\pm$ 0.2 Vrms at 1kHz, for $\leq$ 1000 pF use 1 MHz) |
| <b>Capacitance Tolerances</b>                     | $\pm$ 5%, $\pm$ 10%, $\pm$ 20%                                                             |
| <b>Dissipation Factor</b>                         | 0.15% max. (+25°C, 1.0 $\pm$ 0.2 Vrms, 1kHz, for $\leq$ 1000 pF use 1 MHz)                 |
| <b>Operating Temperature Range</b>                | -55°C to +125°C                                                                            |
| <b>Temperature Characteristic</b>                 | 0 $\pm$ 30 ppm/°C (0 VDC)                                                                  |
| <b>Voltage Ratings</b>                            | 600, 630, 1000, 1500, 2000, 2500, 3000, 4000 & 5000 VDC (+125°C)                           |
| <b>Insulation Resistance</b> (+25°C, at 500 VDC)  | 100K M $\Omega$ min. or 1000 M $\Omega$ - $\mu$ F min., whichever is less                  |
| <b>Insulation Resistance</b> (+125°C, at 500 VDC) | 10K M $\Omega$ min. or 100 M $\Omega$ - $\mu$ F min., whichever is less                    |
| <b>Dielectric Strength</b>                        | Minimum 120% rated voltage for 5 seconds at 50 mA max. current                             |

### HIGH VOLTAGE C0G CAPACITANCE VALUES

| VOLTAGE              | 1825                     | 2225                     | 3640                     |
|----------------------|--------------------------|--------------------------|--------------------------|
| 600/630 min.<br>max. | 1000 pF<br>0.012 $\mu$ F | 1000 pF<br>0.018 $\mu$ F | 1000 pF<br>0.047 $\mu$ F |
| 1000 min.<br>max.    | 100 pF<br>8200 pF        | 1000 pF<br>0.010 $\mu$ F | 1000 pF<br>0.022 $\mu$ F |
| 1500 min.<br>max.    | 100 pF<br>4700 pF        | 100 pF<br>5600 pF        | 100 pF<br>0.010 $\mu$ F  |
| 2000 min.<br>max.    | 100 pF<br>1800 pF        | 100 pF<br>2700 pF        | 100 pF<br>6800 pF        |
| 2500 min.<br>max.    | 10 pF<br>1200 pF         | 100 pF<br>1800 pF        | 100 pF<br>3900 pF        |
| 3000 min.<br>max.    | 10 pF<br>8200 pF         | 10 pF<br>1200 pF         | 100 pF<br>2700 pF        |
| 4000 min.<br>max.    | 10 pF<br>330 pF          | 10 pF<br>560 pF          | 100 pF<br>1200 pF        |
| 5000 min.<br>max.    | —<br>—                   | 10 pF<br>270 pF          | 10 pF<br>820 pF          |

### X7R Dielectric

#### Performance Characteristics

|                                                   |                                                                           |
|---------------------------------------------------|---------------------------------------------------------------------------|
| <b>Capacitance Range</b>                          | 100 pF to 0.56 $\mu$ F (25°C, 1.0 $\pm$ 0.2 Vrms at 1kHz)                 |
| <b>Capacitance Tolerances</b>                     | $\pm$ 10%; $\pm$ 20%; +80%, -20%                                          |
| <b>Dissipation Factor</b>                         | 2.5% max. (+25°C, 1.0 $\pm$ 0.2 Vrms, 1kHz)                               |
| <b>Operating Temperature Range</b>                | -55°C to +125°C                                                           |
| <b>Temperature Characteristic</b>                 | $\pm$ 15% (0 VDC)                                                         |
| <b>Voltage Ratings</b>                            | 600, 630, 1000, 1500, 2000, 2500, 3000, 4000 & 5000 VDC (+125°C)          |
| <b>Insulation Resistance</b> (+25°C, at 500 VDC)  | 100K M $\Omega$ min. or 1000 M $\Omega$ - $\mu$ F min., whichever is less |
| <b>Insulation Resistance</b> (+125°C, at 500 VDC) | 10K M $\Omega$ min. or 100 M $\Omega$ - $\mu$ F min., whichever is less   |
| <b>Dielectric Strength</b>                        | Minimum 120% rated voltage for 5 seconds at 50 mA max. current            |

### HIGH VOLTAGE X7R MAXIMUM CAPACITANCE VALUES

| VOLTAGE              | 1825                           | 2225                           | 3640                           |
|----------------------|--------------------------------|--------------------------------|--------------------------------|
| 600/630 min.<br>max. | 0.010 $\mu$ F<br>0.270 $\mu$ F | 0.010 $\mu$ F<br>0.330 $\mu$ F | 0.010 $\mu$ F<br>0.560 $\mu$ F |
| 1000 min.<br>max.    | 1000 pF<br>0.100 $\mu$ F       | 1000 pF<br>0.150 $\mu$ F       | 1000 pF<br>0.220 $\mu$ F       |
| 1500 min.<br>max.    | 1000 pF<br>0.056 $\mu$ F       | 1000 pF<br>0.068 $\mu$ F       | 1000 pF<br>0.100 $\mu$ F       |
| 2000 min.<br>max.    | 100 pF<br>0.022 $\mu$ F        | 1000 pF<br>0.033 $\mu$ F       | 1000 pF<br>0.027 $\mu$ F       |
| 2500 min.<br>max.    | 100 pF<br>0.015 $\mu$ F        | 100 pF<br>0.022 $\mu$ F        | 1000 pF<br>0.022 $\mu$ F       |
| 3000 min.<br>max.    | 100 pF<br>0.010 $\mu$ F        | 100 pF<br>0.015 $\mu$ F        | 1000 pF<br>0.018 $\mu$ F       |
| 4000 min.<br>max.    | —<br>—                         | —<br>—                         | 100 pF<br>6800 pF              |
| 5000 min.<br>max.    | —<br>—                         | —<br>—                         | 100 pF<br>3300 pF              |

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[1812J2K00332KXT](#) [CCR06CG153FSV](#) [CDR14BP471CJUR](#) [CDR31BX103AKWR](#) [CDR33BX683AKUS](#) [CGA2B2C0G1H010C](#)  
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