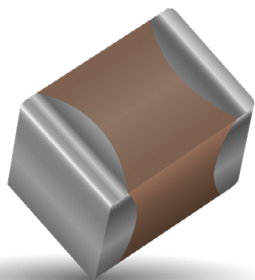


# High Voltage MLC Chips

## For 600V to 5000V Applications



High value, low leakage and small size are difficult parameters to obtain in capacitors for high voltage systems. AVX special high voltage MLC chip capacitors meet these performance characteristics and are designed for applications such as snubbers in high frequency power converters, resonators in SMPS, and high voltage coupling/dc blocking. These high voltage chip designs exhibit low ESRs at high frequencies.

Larger physical sizes than normally encountered chips are used to make high voltage MLC chip products. Special precautions must be taken in applying these chips in surface mount assemblies. The temperature gradient during heating or cooling cycles should not exceed 4°C per second. The preheat temperature must be within 50°C of the peak temperature reached by the ceramic bodies through the soldering process. Chip sizes 1210 and larger should be reflow soldered only. Capacitors may require protective surface coating to prevent external arcing.

For 1825, 2225 and 3640 sizes, AVX offers leaded version in either thru-hole or SMT configurations (for details see section on high voltage leaded MLC chips)

### NEW 630V RANGE

#### HOW TO ORDER

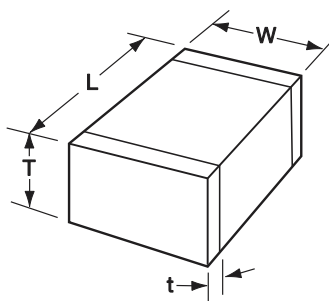
| 1808   | A  | A                              | 271   | M  | A                 | 1  | 2                                       | A                   |
|--|--|--------------------------------|---|--|-------------------|--|---|---------------------|
| <b>AVX Style</b>   | <b>Voltage</b>   | <b>Temperature Coefficient</b> | <b>Capacitance Code</b><br>(2 significant digits + no. of zeros)  | <b>Capacitance Tolerance</b>   | <b>Test Level</b> | <b>Termination*</b>                                      | <b>Packaging</b>                        | <b>Special Code</b> |
| 0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225<br>3640 | 600V/630V = C<br>1000V = A<br>1500V = S<br>2000V = G<br>2500V = W<br>3000V = H<br>4000V = J<br>5000V = K | NPO (C0G) = A<br>X7R = C       | Examples:<br>10 pF = 100<br>100 pF = 101<br>1,000 pF = 102<br>22,000 pF = 223<br>220,000 pF = 224<br>1 μF = 105 | C0G: J = ±5%<br>K = ±10%<br>M = ±20%<br>X7R: K = ±10%<br>M = ±20%<br>Z = +80%,<br>-20% | A = Standard      | 1 = Pd/Ag<br>T = Plated<br>Ni and Sn<br>(RoHS Compliant) | 1 or 2 = 7" Reel**<br>3 or 4 = 13" Reel | A = Standard        |

Notes:

- Capacitors with X7R dielectrics are not intended for applications across AC supply mains or AC line filtering with polarity reversal. Contact plant for recommendations. Contact factory for availability of Termination and Tolerance options for Specific Part Numbers.
- \*Terminations with 5% minimum lead (Pb) is available, see pages 100 and 101 for LD style. Leaded terminations are available, see pages 102-106.

\*\*The 3640 Style is not available on 7" Reels.

\*\*\* AVX offers nonstandard chip sizes. Contact factory for details.



#### DIMENSIONS

millimeters (inches)

| SIZE                   | 0805                           | 1206                           | 1210*                          | 1808*                          | 1812*                          | 1825*                          | 2220*                          | 2225*                          | 3640*                          |
|------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| (L) Length             | 2.10 ± 0.20<br>(0.083 ± 0.008) | 3.30 ± 0.30<br>(0.130 ± 0.012) | 3.30 ± 0.40<br>(0.130 ± 0.016) | 4.60 ± 0.50<br>(0.181 ± 0.020) | 4.60 ± 0.50<br>(0.181 ± 0.020) | 4.60 ± 0.50<br>(0.181 ± 0.020) | 5.70 ± 0.50<br>(0.224 ± 0.020) | 5.72 ± 0.25<br>(0.225 ± 0.010) | 9.14 ± 0.25<br>(0.360 ± 0.010) |
| (W) Width              | 1.25 ± 0.20<br>(0.049 ± 0.008) | 1.60 ± 0.20<br>(0.063 ± 0.008) | 2.50 ± 0.30<br>(0.098 ± 0.012) | 2.00 ± 0.20<br>(0.079 ± 0.008) | 3.20 ± 0.30<br>(0.126 ± 0.012) | 6.30 ± 0.40<br>(0.248 ± 0.016) | 5.00 ± 0.40<br>(0.197 ± 0.016) | 6.35 ± 0.25<br>(0.250 ± 0.010) | 10.2 ± 0.25<br>(0.400 ± 0.010) |
| (T) Thickness Max.     | 1.35<br>(0.053)                | 1.80<br>(0.071)                | 2.80<br>(0.110)                | 2.20<br>(0.087)                | 2.80<br>(0.110)                | 3.40<br>(0.134)                | 3.40<br>(0.134)                | 2.54<br>(0.100)                | 2.54<br>(0.100)                |
| (t) terminal min. max. | 0.50 ± 0.20<br>(0.020 ± 0.008) | 0.60 ± 0.20<br>(0.024 ± 0.008) | 0.75 ± 0.35<br>(0.030 ± 0.014) | 0.75 ± 0.35<br>(0.030 ± 0.014) | 0.75 ± 0.35<br>(0.030 ± 0.014) | 0.75 ± 0.35<br>(0.030 ± 0.014) | 0.85 ± 0.35<br>(0.033 ± 0.014) | 0.85 ± 0.35<br>(0.033 ± 0.014) | 0.76 (0.030)<br>1.52 (0.060)   |

\*Reflow Soldering Only





# High Voltage MLC Chips

## For 600V to 5000V Applications



### NPO (C0G) CAPACITANCE RANGE – PREFERRED SIZES ARE SHADED

| Case Size     | 1825                           |     |      |      |      |      |      |      |     |     |      |      | 2220                         |      |      |      |      |     |     |      |      |      |      |      | 2225                           |      |     |     |      |      |      |      |      |      |      |  | 3640                           |  |  |  |  |  |  |  |  |  |  |  |
|---------------|--------------------------------|-----|------|------|------|------|------|------|-----|-----|------|------|------------------------------|------|------|------|------|-----|-----|------|------|------|------|------|--------------------------------|------|-----|-----|------|------|------|------|------|------|------|--|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Soldering     | Reflow Only                    |     |      |      |      |      |      |      |     |     |      |      | Reflow Only                  |      |      |      |      |     |     |      |      |      |      |      | Reflow Only                    |      |     |     |      |      |      |      |      |      |      |  | Reflow Only                    |  |  |  |  |  |  |  |  |  |  |  |
| (L) Length    | 4.60 ± 0.50<br>(0.181 ± 0.020) |     |      |      |      |      |      |      |     |     |      |      | 5.70 0.50<br>(0.224 0.020)   |      |      |      |      |     |     |      |      |      |      |      | 5.70 ± 0.50<br>(0.225 ± 0.010) |      |     |     |      |      |      |      |      |      |      |  | 9.14 ± 0.25<br>(0.360 ± 0.010) |  |  |  |  |  |  |  |  |  |  |  |
| W) Width      | 6.30 ± 0.40<br>(0.248 ± 0.016) |     |      |      |      |      |      |      |     |     |      |      | 5.00 0.40<br>(0.197 0.016)   |      |      |      |      |     |     |      |      |      |      |      | 6.30 0.40<br>(0.250 ± 0.010)   |      |     |     |      |      |      |      |      |      |      |  | 10.2 ± 0.25<br>(0.400 ± 0.010) |  |  |  |  |  |  |  |  |  |  |  |
| (T) Thickness | 3.40<br>(0.134)                |     |      |      |      |      |      |      |     |     |      |      | 3.40<br>(0.134)              |      |      |      |      |     |     |      |      |      |      |      | 3.40<br>(0.100)                |      |     |     |      |      |      |      |      |      |      |  | 2.54<br>(0.100)                |  |  |  |  |  |  |  |  |  |  |  |
| (t) Terminal  | 0.75 ± 0.35<br>(0.030 ± 0.014) |     |      |      |      |      |      |      |     |     |      |      | 0.85 0.35<br>(0.033 ± 0.014) |      |      |      |      |     |     |      |      |      |      |      | 0.85 ± 0.35<br>(0.033 ± 0.014) |      |     |     |      |      |      |      |      |      |      |  | 0.76 (0.030)<br>1.52 (0.060)   |  |  |  |  |  |  |  |  |  |  |  |
| Voltage (V)   | 600                            | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 600 | 630 | 1000 | 1500 | 2000                         | 2500 | 3000 | 4000 | 5000 | 600 | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000                           | 5000 | 600 | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 5000 |  |                                |  |  |  |  |  |  |  |  |  |  |  |
| Cap (pF)      | 1.5                            | 1R5 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 1.8                            | 1R8 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 2.2                            | 2R2 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 2.7                            | 2R7 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 3.3                            | 3R3 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 3.9                            | 3R9 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 4.7                            | 4R7 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 5.6                            | 5R6 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 6.8                            | 6R8 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 8.2                            | 8R2 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 10                             | 100 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | F   | F    |      |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 12                             | 120 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 15                             | 150 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 18                             | 180 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 22                             | 220 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 27                             | 270 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 33                             | 330 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 39                             | 390 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | F    |      |      |      |      |      |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 47                             | 470 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 56                             | 560 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 68                             | 680 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 82                             | 820 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | F    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 100                            | 101 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 120                            | 121 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 150                            | 151 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 180                            | 181 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 220                            | 221 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 270                            | 271 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 330                            | 331 | E    | E    | G    | E    | F    | E    | F   | F   | F    | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 390                            | 391 | E    | E    | G    | E    | F    | E    | F   |     |      | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 470                            | 471 | E    | E    | G    | E    | F    | E    | F   |     |      | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 560                            | 561 | E    | E    | G    | E    | F    | E    | F   |     |      | E    | E                            | E    | E    | E    | E    | E   | E   | E    | E    | E    | E    | E    | E                              | E    | E   | E   | G    | G    |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 680                            | 681 | E    | E    | G    | E    | F    | F    | G   |     |      | E    | E                            | E    | E    | E    | F    | F   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 750                            | 751 | E    | E    | G    | E    | F    | F    | G   |     |      | E    | E                            | E    | E    | E    | F    | F   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 820                            | 821 | E    | E    | G    | E    | F    | F    | G   |     |      | E    | E                            | E    | E    | E    | F    | F   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 1000                           | 102 | E    | E    | G    | E    | F    | F    | G   |     |      | E    | E                            | E    | E    | E    | F    | F   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 1200                           | 122 | E    | E    | G    | E    | F    | G    | G   |     |      | E    | E                            | E    | E    | E    | G    | G   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 1500                           | 152 | E    | E    | G    | F    | G    | G    | G   |     |      | E    | E                            | E    | F    | F    | G    | G   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 1800                           | 182 | E    | E    | G    | F    | G    | G    | G   |     |      | E    | E                            | E    | F    | F    | G    | G   |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 2200                           | 222 | E    | E    | G    | G    | G    |      | G   |     |      | E    | E                            | E    | G    | G    |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 2700                           | 272 | E    | E    | G    | G    | G    |      | G   |     |      | E    | E                            | E    | G    | G    |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 3300                           | 332 | E    | E    | G    | G    | G    |      |     |     |      | E    | E                            | E    | G    | G    |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 3900                           | 392 | E    | E    | G    | G    | G    |      |     |     |      | E    | E                            | E    | G    | G    |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 4700                           | 472 | E    | E    | G    | G    | G    |      |     |     |      | E    | E                            | E    | G    | G    |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 5600                           | 562 | F    | F    | G    | G    | G    |      |     |     |      | F    | F                            | F    | G    | G    |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 6800                           | 682 | F    | F    | G    |      | G    |      |     |     |      | F    | F                            | F    |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 8200                           | 822 | F    | F    | G    |      | G    |      |     |     |      | G    | G                            | G    |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
| Cap (µF)      | 0.010                          | 103 | F    | F    | G    |      |      |      |     |     |      | 7    | 7                            | 7    |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.012                          | 123 | F    | F    | G    |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.015                          | 153 | F    | F    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.018                          | 183 | F    | F    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.022                          | 223 | F    | F    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.027                          | 273 | F    | F    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.033                          | 333 | F    | F    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.039                          | 393 | G    | G    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.047                          | 473 | G    | G    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.056                          | 563 | G    | G    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.068                          | 683 | G    | G    |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |
|               | 0.100                          | 104 |      |      |      |      |      |      |     |     |      |      |                              |      |      |      |      |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      | G    |  |                                |  |  |  |  |  |  |  |  |  |  |  |

| Letter         | A                | C                | E                 | F                 | G                | X                | 7               |
|----------------|------------------|------------------|-------------------|-------------------|------------------|------------------|-----------------|
| Max. Thickness | 0.813<br>(0.032) | 1.448<br>(0.057) | 1.8034<br>(0.071) | 2.2098<br>(0.087) | 2.794<br>(0.110) | 0.940<br>(0.037) | 3.30<br>(0.130) |

NOTE: Contact factory for non-specified capacitance values

# High Voltage MLC Chips

## For 600V to 5000V Applications



### X7R Dielectric

#### Performance Characteristics

|  |  |
|--|--|
| Capacitance Range                          | 10 pF to 0.82 μF (25°C, 1.0 ±0.2 Vrms at 1kHz)                   |
| Capacitance Tolerances                     | ±10%; ±20%; +80%, -20%   |
| Dissipation Factor                         | 2.5% max. (+25°C, 1.0 ±0.2 Vrms, 1kHz)                           |
| Operating Temperature Range                | -55°C to +125°C  |
| Temperature Characteristic                 | ±15% (0 VDC)   |
| Voltage Ratings                            | 600, 630, 1000, 1500, 2000, 2500, 3000, 4000 & 5000 VDC (+125°C) |
| Insulation Resistance (+25°C, at 500 VDC)  | 100K MΩ min. or 1000 MΩ - μF min., whichever is less             |
| Insulation Resistance (+125°C, at 500 VDC) | 10K MΩ min. or 100 MΩ - μF min., whichever is less               |
| Dielectric Strength                        | Minimum 120% rated voltage for 5 seconds at 50 mA max. current   |

### X7R CAPACITANCE RANGE – PREFERRED SIZES ARE SHADED

| Case Size<br>Soldering | 0805                         |     |      | 1206                                      |     |      |      |      | 1210                         |     |      |      |      | 1808                         |     |      |      |      |      |      |      | 1812                         |     |      |      |      |      |      |      |
|------------------------|------------------------------|-----|------|---|-----|------|------|------|------------------------------|-----|------|------|------|------------------------------|-----|------|------|------|------|------|------|------------------------------|-----|------|------|------|------|------|------|
|                        | Reflow/Wave                  |     |      | Reflow/Wave                               |     |      |      |      | Reflow Only                  |     |      |      |      | Reflow Only                  |     |      |      |      |      |      |      | Reflow Only                  |     |      |      |      |      |      |      |
| (L) Length             | 2.10 ±0.20<br>(0.085 ±0.008) |     |      | 3.30 ±0.30<br>(0.130 ±0.012)              |     |      |      |      | 3.30 ±0.40<br>(0.130 ±0.016) |     |      |      |      | 4.60 ±0.50<br>(0.181 ±0.020) |     |      |      |      |      |      |      | 4.60 ±0.50<br>(0.177 ±0.012) |     |      |      |      |      |      |      |
| W) Width               | 1.25 ±0.20<br>(0.049 ±0.008) |     |      | 1.60 +0.30/-0.10<br>(0.063 +0.012/-0.004) |     |      |      |      | 2.50 ±0.30<br>(0.098 ±0.012) |     |      |      |      | 2.00 ±0.20<br>(0.079 ±0.008) |     |      |      |      |      |      |      | 3.20 ±0.30<br>(0.126 ±0.008) |     |      |      |      |      |      |      |
| (T) Thickness          | 1.35<br>(0.053)              |     |      | 1.80<br>(0.071)                           |     |      |      |      | 2.80<br>(0.110)              |     |      |      |      | 2.20<br>(0.087)              |     |      |      |      |      |      |      | 2.80<br>(0.100)              |     |      |      |      |      |      |      |
| (t) Terminal           | 0.50 ±0.20<br>(0.020 ±0.008) |     |      | 0.60 ±0.20<br>(0.024 ±0.008)              |     |      |      |      | 0.75 ±0.35<br>(0.030 ±0.014) |     |      |      |      | 0.75 ±0.35<br>(0.030 ±0.014) |     |      |      |      |      |      |      | 0.75 ±0.35<br>(0.030 ±0.014) |     |      |      |      |      |      |      |
| Voltage (V)            | 600                          | 630 | 1000 | 600                                       | 630 | 1000 | 1500 | 2000 | 600                          | 630 | 1000 | 1500 | 2000 | 600                          | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 600                          | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 |
| Cap (pF) 100           | 101                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 120                    | 121                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 150                    | 151                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 180                    | 181                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 220                    | 221                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 270                    | 271                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 330                    | 331                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 390                    | 391                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 470                    | 471                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 560                    | 561                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 680                    | 681                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 750                    | 751                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 820                    | 821                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 1000                   | 102                          | X   | X    | X   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 1200                   | 122                          | X   | X    | X   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 1500                   | 152                          | X   | X    | X   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 1800                   | 182                          | X   | X    | C   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 2200                   | 222                          | X   | X    | X   | C   | C    | C    | E    | E                            | E   | E    | E    | E    | E                            | E   | E    | E    | E    | E    | E    | F    |                              |     |      |      |      |      |      |      |
| 2700                   | 272                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 3300                   | 332                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 3900                   | 392                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 4700                   | 472                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 5600                   | 562                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 6800                   | 682                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 8200                   | 822                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| Cap (μF) 0.010         | 103                          | C   | C    |   | C   | C    | C    | E    | E                            |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 0.015                  | 153                          | C   | C    |   | E   | E    | E    |      |                              |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 0.018                  | 183                          | C   | C    |   | E   | E    | E    |      |                              |     |      |      |      | E                            | E   | E    | F    | E    | E    | E    | F    | F                            |     |      |      |      |      |      |      |
| 0.022                  | 223                          | C   | C    |   | E   | E    | E    |      |                              |     |      |      |      | E                            | E   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.027                  | 273                          |     |      |   | E   | E    | E    |      |                              |     |      |      |      | E                            | E   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.033                  | 333                          |     |      |   | E   | E    | E    |      |                              |     |      |      |      | E                            | E   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.039                  | 393                          |     |      |   |     |      |      |      |                              |     |      |      |      | E                            | E   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.047                  | 473                          |     |      |   |     |      |      |      |                              |     |      |      |      | E                            | E   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.056                  | 563                          |     |      |   |     |      |      |      |                              |     |      |      |      | F                            | F   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.068                  | 683                          |     |      |   |     |      |      |      |                              |     |      |      |      | F                            | F   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.082                  | 823                          |     |      |   |     |      |      |      |                              |     |      |      |      | F                            | F   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.100                  | 104                          |     |      |   |     |      |      |      |                              |     |      |      |      | F                            | F   | F    | F    | E    | E    | F    | F    |                              |     |      |      |      |      |      |      |
| 0.150                  | 154                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.220                  | 224                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.270                  | 274                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.330                  | 334                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.390                  | 394                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.470                  | 474                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.560                  | 564                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.680                  | 684                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 0.820                  | 824                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| 1.000                  | 105                          |     |      |   |     |      |      |      |                              |     |      |      |      |                              |     |      |      |      |      |      |      |                              |     |      |      |      |      |      |      |
| Voltage (V)            | 600                          | 630 | 1000 | 600                                       | 630 | 1000 | 1500 | 2000 | 600                          | 630 | 1000 | 1500 | 2000 | 600                          | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 600                          | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 |
| Case Size              | 0805                         |     |      | 1206                                      |     |      |      |      | 1210                         |     |      |      |      | 1808                         |     |      |      |      |      |      |      | 1812                         |     |      |      |      |      |      |      |

|                |                  |                  |                   |                   |                  |                  |                 |
|----------------|------------------|------------------|-------------------|-------------------|------------------|------------------|-----------------|
| Letter         | A                | C                | E                 | F                 | G                | X                | 7               |
| Max. Thickness | 0.813<br>(0.032) | 1.448<br>(0.057) | 1.8034<br>(0.071) | 2.2098<br>(0.087) | 2.794<br>(0.110) | 0.940<br>(0.037) | 3.30<br>(0.130) |

NOTE: Contact factory for non-specified capacitance values



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

# High Voltage MLC Chips

## For 600V to 5000V Applications



### X7R CAPACITANCE RANGE

#### PREFERRED SIZES ARE SHADED

| Case Size        | 1825                           |     |      |      |      |      |      |      | 2220                           |     |      |      |      |      |      |      | 2225                           |     |     |      |      |      |      |      | 3640                           |      |     |     |      |      |      |      |      |      |      |
|------------------|--------------------------------|-----|------|------|------|------|------|------|--------------------------------|-----|------|------|------|------|------|------|--------------------------------|-----|-----|------|------|------|------|------|--------------------------------|------|-----|-----|------|------|------|------|------|------|------|
| Soldering        | Reflow Only                    |     |      |      |      |      |      |      | Reflow Only                    |     |      |      |      |      |      |      | Reflow Only                    |     |     |      |      |      |      |      | Reflow Only                    |      |     |     |      |      |      |      |      |      |      |
| (L) Length       | 4.60 ± 0.50<br>(0.181 ± 0.020) |     |      |      |      |      |      |      | 5.70 ± 0.50<br>(0.224 ± 0.020) |     |      |      |      |      |      |      | 5.70 ± 0.50<br>(0.225 ± 0.010) |     |     |      |      |      |      |      | 9.14 ± 0.25<br>(0.360 ± 0.010) |      |     |     |      |      |      |      |      |      |      |
| (W) Width        | 6.30 ± 0.40<br>(0.248 ± 0.016) |     |      |      |      |      |      |      | 5.00 ± 0.40<br>(0.197 ± 0.016) |     |      |      |      |      |      |      | 6.30 ± 0.40<br>(0.250 ± 0.010) |     |     |      |      |      |      |      | 10.2 ± 0.25<br>(0.400 ± 0.010) |      |     |     |      |      |      |      |      |      |      |
| (T) Thickness    | 3.40<br>(0.134)                |     |      |      |      |      |      |      | 3.40<br>(0.134)                |     |      |      |      |      |      |      | 3.40<br>(0.100)                |     |     |      |      |      |      |      | 2.54<br>(0.100)                |      |     |     |      |      |      |      |      |      |      |
| (t) Terminal max | 0.75 ± 0.35<br>(0.030 ± 0.014) |     |      |      |      |      |      |      | 0.85 ± 0.35<br>(0.033 ± 0.014) |     |      |      |      |      |      |      | 0.85 ± 0.35<br>(0.033 ± 0.014) |     |     |      |      |      |      |      | 0.76 (0.030)<br>1.52 (0.060)   |      |     |     |      |      |      |      |      |      |      |
| Voltage (V)      | 600                            | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 600                            | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 5000                           | 600 | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000                           | 5000 | 600 | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 5000 |
| Cap (pF)         | 100                            | 101 |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 120              | 121                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 150              | 151                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 180              | 181                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 220              | 221                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 270              | 271                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 330              | 331                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 390              | 391                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 470              | 471                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 560              | 561                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 680              | 681                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 750              | 751                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 820              | 821                            |     |      |      |      |      |      |      |                                |     |      |      |      |      |      |      |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 1000             | 102                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 1200             | 122                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 1500             | 152                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 1800             | 182                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 2200             | 222                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 2700             | 272                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 3300             | 332                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 3900             | 392                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 4700             | 472                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 5600             | 562                            | F   | F    | F    | F    | F    | F    | F    | F                              | F   | F    | F    | F    | F    | F    | G    | F                              | F   | F   | F    | F    | F    | F    | F    | F                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 6800             | 682                            | F   | F    | F    | G    | G    | G    | G    | F                              | F   | F    | F    | F    | G    | G    | G    | F                              | F   | F   | F    | F    | G    | G    | G    | G                              | G    | G   | G   | G    | G    | G    | G    | G    | G    |      |
| 8200             | 822                            | F   | F    | F    | G    | G    | G    | G    | F                              | F   | F    | G    | G    | G    | G    | F    | F                              | F   | F   | F    | G    | G    | G    | G    | G                              | G    | G   | G   | G    | G    | G    | G    | G    |      |      |
| Cap (uF)         | 0.010                          | 103 | F    | F    | F    | G    | G    | G    | F                              | F   | F    | G    | G    | G    | F    | F    | F                              | F   | F   | G    | G    | G    | G    | G    | G                              | G    | G   | G   | G    | G    | G    | G    |      |      |      |
| 0.015            | 153                            | F   | F    | F    | G    | G    | G    | G    | F                              | F   | F    | G    | G    | G    | F    | F    | F                              | G   | G   | G    | G    | G    | G    | G    | G                              | G    | G   | G   | G    | G    | G    | G    |      |      |      |
| 0.018            | 183                            | F   | F    | F    | G    | G    |      |      | F                              | F   | F    | G    | G    | G    | F    | F    | F                              | G   | G   | G    | G    | G    | G    | G    | G                              | G    | G   | G   | G    | G    | G    |      |      |      |      |
| 0.022            | 223                            | F   | F    | F    | G    | G    |      |      | F                              | F   | F    | G    | G    | G    | F    | F    | F                              | G   | G   | G    | G    | G    | G    | G    | G                              | G    | G   | G   | G    | G    | G    |      |      |      |      |
| 0.027            | 273                            | F   | F    | F    | G    |      |      |      | F                              | F   | F    | G    | G    |      | F    | F    | F                              | G   | G   |      |      | G    | G    | G    | G                              | G    |     |     |      |      |      |      |      |      |      |
| 0.033            | 333                            | F   | F    | F    | G    |      |      |      | F                              | F   | F    | G    |      |      | F    | F    | F                              | G   | G   |      | G    | G    | G    | G    |                                |      |     |     |      |      |      |      |      |      |      |
| 0.039            | 393                            | F   | F    | F    | G    |      |      |      | F                              | F   | F    | G    |      |      | F    | F    | F                              | G   |     | G    | G    | G    | G    |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.047            | 473                            | F   | F    | F    | P    |      |      |      | F                              | F   | F    | G    |      |      | F    | F    | F                              | G   |     | G    | G    | G    | G    |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.056            | 563                            | F   | F    | F    | G    |      |      |      | F                              | F   | F    | G    |      |      | F    | F    | F                              | G   |     | G    | G    | G    | G    |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.068            | 683                            | F   | F    | G    |      |      |      |      | F                              | F   | G    |      |      |      | F    | F    | F                              | G   |     | G    | G    | G    | G    |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.082            | 823                            | F   | F    | G    |      |      |      |      | F                              | F   | G    |      |      |      | F    | F    | G                              |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.100            | 104                            | F   | F    | G    |      |      |      |      | F                              | F   | G    |      |      |      | F    | F    | G                              |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.150            | 154                            | F   | F    |      |      |      |      |      | F                              | F   | G    |      |      |      | F    | F    | G                              |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.220            | 224                            | F   | F    |      |      |      |      |      | F                              | F   | G    |      |      |      | F    | F    |                                |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.270            | 274                            | F   | F    |      |      |      |      |      | F                              | F   |      |      |      |      | F    | F    |                                |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.330            | 334                            | F   | F    |      |      |      |      |      | F                              | F   |      |      |      |      | F    | F    |                                |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.390            | 394                            | F   | F    |      |      |      |      |      | F                              | F   |      |      |      |      | F    | F    |                                |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.470            | 474                            | F   | F    |      |      |      |      |      | F                              | F   |      |      |      |      | F    | F    |                                |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.560            | 564                            | G   | G    |      |      |      |      |      | G                              | G   |      |      |      |      | F    | F    |                                |     | G   | G    |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.680            | 684                            |     |      |      |      |      |      |      | G                              | G   |      |      |      |      | G    | G    |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 0.820            | 824                            |     |      |      |      |      |      |      |                                |     |      |      |      |      | G    | G    |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| 1.000            | 105                            |     |      |      |      |      |      |      |                                |     |      |      |      |      | G    | G    |                                |     |     |      |      |      |      |      |                                |      |     |     |      |      |      |      |      |      |      |
| Voltage (V)      | 600                            | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 600                            | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 5000                           | 600 | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000                           | 5000 | 600 | 630 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 5000 |
| Case Size        | 1825                           |     |      |      |      |      |      |      | 2220                           |     |      |      |      |      |      |      | 2225                           |     |     |      |      |      |      |      | 3640                           |      |     |     |      |      |      |      |      |      |      |

| Letter         | A                | C                | E                 | F                 | G                | X                | 7               |
|----------------|------------------|------------------|-------------------|-------------------|------------------|------------------|-----------------|
| Max. Thickness | 0.813<br>(0.032) | 1.448<br>(0.057) | 1.8034<br>(0.071) | 2.2098<br>(0.087) | 2.794<br>(0.110) | 0.940<br>(0.037) | 3.30<br>(0.130) |

NOTE: Contact factory for non-specified capacitance values

单击下面可查看定价，库存，交付和生命周期等信息

[>>AVX](#)