

MLCC Tin/Lead Termination “B”



General Specifications



AVX Corporation will support those customers for commercial and military Multilayer Ceramic Capacitors with a termination consisting of 5% minimum lead. This termination is indicated by the use of a “B” in the 12th position of the AVX Catalog Part Number. This fulfills AVX’s commitment to providing a full range of products to our customers. AVX has provided in the following pages a full range of values that we are currently offering in this special “B” termination. Please contact the factory if you require additional information on our MLCC Tin/Lead Termination “B” products.

Not RoHS Compliant

PART NUMBER (see page 2 for complete part number explanation)

| LD05 | 5 | A | 101 | J | A | B | 2 | A |
|---|---|--|---------------------------------------|--|-----------------------|--|---|---------------------|
| Size | Voltage | Dielectric | Capacitance Code (In pF) | Capacitance Tolerance | Failure Rate | Terminations | Packaging | Special Code |
| LD02 - 0402 LD03 - 0603 LD04 - 0504* LD05 - 0805 LD06 - 1206 LD10 - 1210 LD12 - 1812 LD13 - 1825 LD14 - 2225 LD20 - 2220 | 6.3V = 6 10V = Z 16V = Y 25V = 3 35V = D 50V = 5 100V = 1 200V = 2 500V = 7 | COG (NP0) = A X7R = C X5R = D X8R = F | 2 Sig. Digits + Number of Zeros | B = ±.10 pF (<10pF) C = ±.25 pF (<10pF) D = ±.50 pF (<10pF) F = ±1% (≥ 10 pF) G = ±2% (≥ 10 pF) J = ±5% K = ±10% M = ±20% | A = Not Applicable | B = 5% min lead X = FLEXITERM® with 5% min lead** | 2 = 7" Reel 4 = 13" Reel 7 = Bulk Cass. 9 = Bulk | A = Std. Product |
| | | | | | | **X7R only | Contact Factory For Multiples | |

*LD04 has the same CV ranges as LD03.

NOTE: Contact factory for availability of Tolerance Options for Specific Part Numbers.
Contact factory for non-specified capacitance values.

See FLEXITERM® section
for CV options

| | |
|-----|--|
| NP0 | Refer to page 4 for Electrical Graphs |
| X7R | Refer to page 17 for Electrical Graphs |
| X7S | Refer to page 21 for Electrical Graphs |
| X5R | Refer to page 24 for Electrical Graphs |
| Y5V | Refer to page 27 for Electrical Graphs |

MLCC Tin/Lead Termination "B"



Capacitance Range (NP0 Dielectric)

PREFERRED SIZES ARE SHADED

| SIZE | LD02 | | | LD03 | | | LD05 | | | | | LD06 | | | | | | | |
|--------------|-------------|--------------------------------|----|-------------|--------------------------------|----|----------------|--------------------------------|----|----|----|----------------|--------------------------------|----|----|----|-----|-----|-----|
| Soldering | Reflow/Wave | | | Reflow/Wave | | | Reflow/Wave | | | | | Reflow/Wave | | | | | | | |
| Packaging | All Paper | | | All Paper | | | Paper/Embossed | | | | | Paper/Embossed | | | | | | | |
| (L) Length | mm | 1.00 ± 0.10 (0.040 ± 0.004) | | | 1.60 ± 0.15 (0.063 ± 0.006) | | | 2.01 ± 0.20 (0.079 ± 0.008) | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | | |
| (W) Width | mm | 0.50 ± 0.10 (0.020 ± 0.004) | | | 0.81 ± 0.15 (0.032 ± 0.006) | | | 1.25 ± 0.20 (0.049 ± 0.008) | | | | | 1.60 ± 0.20 (0.063 ± 0.008) | | | | | | |
| (t) Terminal | mm | 0.25 ± 0.15 (0.010 ± 0.006) | | | 0.35 ± 0.15 (0.014 ± 0.006) | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | | |
| WVDC | | 16 | 25 | 50 | 16 | 25 | 50 | 100 | 16 | 25 | 50 | 100 | 200 | 16 | 25 | 50 | 100 | 200 | 500 |
| Cap (pF) | 0.5 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J |
| | 1.0 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J |
| | 1.2 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J |
| | 1.5 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J |
| | 1.8 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J |
| 2.2 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 2.7 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 3.3 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 3.9 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 4.7 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 5.6 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 6.8 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 8.2 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 10 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 12 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 15 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 18 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 22 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 27 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 33 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 39 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 47 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 56 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 68 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 82 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 100 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 120 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 150 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 180 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | J | |
| 220 | C | C | C | G | G | G | G | J | J | J | J | J | J | J | J | J | J | M | |
| 270 | C | C | C | G | G | G | G | J | J | J | J | M | J | J | J | J | J | M | |
| 330 | C | C | C | G | G | G | G | J | J | J | J | M | J | J | J | J | J | M | |
| 390 | C | C | C | G | G | G | G | J | J | J | J | M | J | J | J | J | J | M | |
| 470 | C | C | C | G | G | G | G | J | J | J | J | M | J | J | J | J | J | M | |
| 560 | | | | G | G | G | | J | J | J | J | M | J | J | J | J | J | M | |
| 680 | | | | G | G | G | | J | J | J | J | | J | J | J | J | J | P | |
| 820 | | | | G | G | G | | J | J | J | J | | J | J | J | J | J | M | |
| 1000 | | | | G | G | G | | J | J | J | J | | J | J | J | J | J | Q | |
| 1200 | | | | | | | | J | J | J | J | | J | J | J | J | J | Q | |
| 1500 | | | | | | | | J | J | J | J | | J | J | J | M | J | Q | |
| 1800 | | | | | | | | J | J | J | | | J | J | M | M | | | |
| 2200 | | | | | | | | J | J | N | | | J | J | M | P | | | |
| 2700 | | | | | | | | J | J | N | | | J | J | M | P | | | |
| 3300 | | | | | | | | J | J | | | | J | J | M | P | | | |
| 3900 | | | | | | | | J | J | | | | J | J | M | P | | | |
| 4700 | | | | | | | | J | J | | | | J | J | M | P | | | |
| 5600 | | | | | | | | | | | | | J | J | M | | | | |
| 6800 | | | | | | | | | | | | | M | M | | | | | |
| 8200 | | | | | | | | | | | | | M | M | | | | | |
| Cap (µF) | 0.010 | | | | | | | | | | | | | M | M | | | | |
| | 0.012 | | | | | | | | | | | | | | | | | | |
| | 0.015 | | | | | | | | | | | | | | | | | | |
| | 0.018 | | | | | | | | | | | | | | | | | | |
| | 0.022 | | | | | | | | | | | | | | | | | | |
| | 0.027 | | | | | | | | | | | | | | | | | | |
| | 0.033 | | | | | | | | | | | | | | | | | | |
| | 0.039 | | | | | | | | | | | | | | | | | | |
| | 0.047 | | | | | | | | | | | | | | | | | | |
| | 0.068 | | | | | | | | | | | | | | | | | | |
| 0.082 | | | | | | | | | | | | | | | | | | | |
| 0.1 | | | | | | | | | | | | | | | | | | | |
| WVDC | | 16 | 25 | 50 | 16 | 25 | 50 | 100 | 16 | 25 | 50 | 100 | 200 | 16 | 25 | 50 | 100 | 200 | 500 |
| SIZE | LD02 | | | LD03 | | | LD05 | | | | | LD06 | | | | | | | |

| Letter | A | C | E | G | J | K | M | N | P | Q | X | Y | Z |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Thickness | 0.33 (0.013) | 0.56 (0.022) | 0.71 (0.028) | 0.90 (0.035) | 0.94 (0.037) | 1.02 (0.040) | 1.27 (0.050) | 1.40 (0.055) | 1.52 (0.060) | 1.78 (0.070) | 2.29 (0.090) | 2.54 (0.100) | 2.79 (0.110) |
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MLCC Tin/Lead Termination "B"

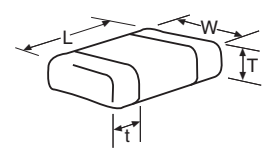


Capacitance Range (NP0 Dielectric)

PREFERRED SIZES ARE SHADED

| SIZE | | LD10 | | | | | LD12 | | | | | LD13 | | | LD14 | | |
|--------------|-------|--------------------------------|----|-----|-----|-----|--------------------------------|----|-----|-----|-----|--------------------------------|-----|-----|--------------------------------|-----|-----|
| Soldering | | Reflow Only | | | | | Reflow Only | | | | | Reflow Only | | | Reflow Only | | |
| Packaging | | Paper/Embossed | | | | | All Embossed | | | | | All Embossed | | | All Embossed | | |
| (L) Length | mm | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | 4.50 ± 0.30 (0.177 ± 0.012) | | | | | 4.50 ± 0.30 (0.177 ± 0.012) | | | 5.72 ± 0.25 (0.225 ± 0.010) | | |
| (W) Width | mm | 2.50 ± 0.20 (0.098 ± 0.008) | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | 6.40 ± 0.40 (0.252 ± 0.016) | | | 6.35 ± 0.25 (0.250 ± 0.010) | | |
| (t) Terminal | mm | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | 0.61 ± 0.36 (0.024 ± 0.014) | | | | | 0.61 ± 0.36 (0.024 ± 0.014) | | | 0.64 ± 0.39 (0.025 ± 0.015) | | |
| WVDC | | 25 | 50 | 100 | 200 | 500 | 25 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 50 | 100 | 200 |
| Cap (pF) | 0.5 | | | | | | | | | | | | | | | | |
| | 1.0 | | | | | | | | | | | | | | | | |
| | 1.2 | | | | | | | | | | | | | | | | |
| | 1.5 | | | | | | | | | | | | | | | | |
| | 1.8 | | | | | | | | | | | | | | | | |
| | 2.2 | | | | | | | | | | | | | | | | |
| | 2.7 | | | | | | | | | | | | | | | | |
| | 3.3 | | | | | | | | | | | | | | | | |
| | 3.9 | | | | | | | | | | | | | | | | |
| | 4.7 | | | | | | | | | | | | | | | | |
| | 5.6 | | | | | | | | | | | | | | | | |
| | 6.8 | | | | | | | | | | | | | | | | |
| | 8.2 | | | | | | | | | | | | | | | | |
| | 10 | | | | | J | | | | | | | | | | | |
| | 12 | | | | | J | | | | | | | | | | | |
| | 15 | | | | | J | | | | | | | | | | | |
| | 18 | | | | | J | | | | | | | | | | | |
| | 22 | | | | | J | | | | | | | | | | | |
| | 27 | | | | | J | | | | | | | | | | | |
| | 33 | | | | | J | | | | | | | | | | | |
| | 39 | | | | | J | | | | | | | | | | | |
| | 47 | | | | | J | | | | | | | | | | | |
| | 56 | | | | | J | | | | | | | | | | | |
| | 68 | | | | | J | | | | | | | | | | | |
| | 82 | | | | | J | | | | | | | | | | | |
| | 100 | | | | | J | | | | | | | | | | | |
| | 120 | | | | | J | | | | | | | | | | | |
| | 150 | | | | | J | | | | | | | | | | | |
| | 180 | | | | | J | | | | | | | | | | | |
| | 220 | | | | | J | | | | | | | | | | | |
| | 270 | | | | | J | | | | | | | | | | | |
| | 330 | | | | | J | | | | | | | | | | | |
| | 390 | | | | | M | | | | | | | | | | | |
| | 470 | | | | | M | | | | | | | | | | | |
| | 560 | J | J | J | J | M | | | | | | | | | | | |
| | 680 | J | J | J | J | M | | | | | | | | | | | |
| | 820 | J | J | J | J | M | | | | | | | | | | | |
| | 1000 | J | J | J | J | M | K | K | K | K | M | M | M | M | M | M | P |
| | 1200 | J | J | J | M | M | K | K | K | K | M | M | M | M | M | M | P |
| | 1500 | J | J | J | M | M | K | K | K | K | M | M | M | M | M | M | P |
| | 1800 | J | J | J | M | | K | K | K | K | M | M | M | M | M | M | P |
| | 2200 | J | J | J | Q | | K | K | K | K | P | M | M | M | M | M | P |
| | 2700 | J | J | J | Q | | K | K | K | P | Q | M | M | M | M | M | P |
| | 3300 | J | J | J | | | K | K | K | P | Q | M | M | M | M | M | P |
| | 3900 | J | J | M | | | K | K | K | P | Q | M | M | M | M | M | P |
| | 4700 | J | J | M | | | K | K | K | P | Q | M | M | M | M | M | P |
| | 5600 | J | J | | | | K | K | M | P | X | M | M | M | M | M | P |
| | 6800 | J | J | | | | K | K | M | X | | M | M | M | M | M | P |
| | 8200 | J | J | | | | K | M | M | | | M | M | | M | M | P |
| Cap (µF) | 0.010 | J | J | | | | K | M | M | | | M | M | | M | M | P |
| | 0.012 | J | J | | | | K | M | | | | M | M | | M | M | P |
| | 0.015 | | | | | | M | M | | | | M | M | | M | M | Y |
| | 0.018 | | | | | | M | M | | | | P | M | | M | M | Y |
| | 0.022 | | | | | | M | M | | | | P | | | M | Y | Y |
| | 0.027 | | | | | | M | M | | | | P | | | P | Y | Y |
| | 0.033 | | | | | | M | M | | | | P | | | P | | |
| | 0.039 | | | | | | M | M | | | | P | | | P | | |
| | 0.047 | | | | | | M | M | | | | P | | | P | | |
| | 0.068 | | | | | | M | M | | | | | | | P | | |
| | 0.082 | | | | | | M | M | | | | | | | Q | | |
| | 0.1 | | | | | | | | | | | | | | Q | | |
| WVDC | | 25 | 50 | 100 | 200 | 500 | 25 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 50 | 100 | 200 |

| SIZE | LD10 | | | | | LD12 | | | | | LD13 | | | LD14 | | |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|--|--|
| Letter | A | C | E | G | J | K | M | N | P | Q | X | Y | Z | | | |
| Max. Thickness | 0.33 (0.013) | 0.56 (0.022) | 0.71 (0.028) | 0.90 (0.035) | 0.94 (0.037) | 1.02 (0.040) | 1.27 (0.050) | 1.40 (0.055) | 1.52 (0.060) | 1.78 (0.070) | 2.29 (0.090) | 2.54 (0.100) | 2.79 (0.110) | | | |
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MLCC Tin/Lead Termination “B”



Capacitance Range (X8R Dielectric)

| SIZE | | LD03 | | LD05 | | LD06 | |
|------|------------|------|-----|------|-----|------|-----|
| | WVDC | 25V | 50V | 25V | 50V | 25V | 50V |
| 271 | Cap 270 | G | G | | | | |
| 331 | (pF) 330 | G | G | J | J | | |
| 471 | 470 | G | G | J | J | | |
| 681 | 680 | G | G | J | J | | |
| 102 | 1000 | G | G | J | J | J | J |
| 152 | 1500 | G | G | J | J | J | J |
| 182 | 1800 | G | G | J | J | J | J |
| 222 | 2200 | G | G | J | J | J | J |
| 272 | 2700 | G | G | J | J | J | J |
| 332 | 3300 | G | G | J | J | J | J |
| 392 | 3900 | G | G | J | J | J | J |
| 472 | 4700 | G | G | J | J | J | J |
| 562 | 5600 | G | G | J | J | J | J |
| 682 | 6800 | G | G | J | J | J | J |
| 822 | 8200 | G | G | J | J | J | J |
| 103 | Cap 0.01 | G | G | J | J | J | J |
| 123 | (µF) 0.012 | G | G | J | J | J | J |
| 153 | 0.015 | G | G | J | J | J | J |
| 183 | 0.018 | G | G | J | J | J | J |
| 223 | 0.022 | G | G | J | J | J | J |
| 273 | 0.027 | G | G | J | J | J | J |
| 333 | 0.033 | G | G | J | J | J | J |
| 393 | 0.039 | G | G | J | J | J | J |
| 473 | 0.047 | G | G | J | J | J | J |
| 563 | 0.056 | G | | N | N | M | M |
| 683 | 0.068 | G | | N | N | M | M |
| 823 | 0.082 | | | N | N | M | M |
| 104 | 0.1 | | | N | N | M | M |
| 124 | 0.12 | | | N | N | M | M |
| 154 | 0.15 | | | N | N | M | M |
| 184 | 0.18 | | | N | | M | M |
| 224 | 0.22 | | | N | | M | M |
| 274 | 0.27 | | | | | M | M |
| 334 | 0.33 | | | | | M | M |
| 394 | 0.39 | | | | | M | |
| 474 | 0.47 | | | | | M | |
| 684 | 0.68 | | | | | | |
| 824 | 0.82 | | | | | | |
| 105 | 1 | | | | | | |
| SIZE | WVDC | 25V | 50V | 25V | 50V | 25V | 50V |
| | | LD03 | | LD05 | | LD06 | |

| Letter | A | C | E | G | J | K | M | N | P | Q | X | Y | Z |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Thickness | 0.33 (0.013) | 0.56 (0.022) | 0.71 (0.028) | 0.90 (0.035) | 0.94 (0.037) | 1.02 (0.040) | 1.27 (0.050) | 1.40 (0.055) | 1.52 (0.060) | 1.78 (0.070) | 2.29 (0.090) | 2.54 (0.100) | 2.79 (0.110) |
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MLCC Tin/Lead Termination “B”



Capacitance Range (X7R Dielectric)

PREFERRED SIZES ARE SHADED

| SIZE | LD02 | | | LD03 | | | | | | LD05 | | | | | | LD06 | | | | | | | | | |
|--------------|--------------------------------|----|----|--------------------------------|----|----|----|----|-----|--------------------------------|-----|----|----|----|----|--------------------------------|-----|-----|----|----|----|----|-----|-----|-----|
| Soldering | Reflow/Wave | | | Reflow/Wave | | | | | | Reflow/Wave | | | | | | Reflow/Wave | | | | | | | | | |
| Packaging | All Paper | | | All Paper | | | | | | Paper/Embossed | | | | | | Paper/Embossed | | | | | | | | | |
| (L) Length | 1.00 ± 0.10 (0.040 ± 0.004) | | | 1.60 ± 0.15 (0.063 ± 0.006) | | | | | | 2.01 ± 0.20 (0.079 ± 0.008) | | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | | | | | |
| (W) Width | 0.50 ± 0.10 (0.020 ± 0.004) | | | 0.81 ± 0.15 (0.032 ± 0.006) | | | | | | 1.25 ± 0.20 (0.049 ± 0.008) | | | | | | 1.60 ± 0.20 (0.063 ± 0.008) | | | | | | | | | |
| (t) Terminal | 0.25 ± 0.15 (0.010 ± 0.006) | | | 0.35 ± 0.15 (0.014 ± 0.006) | | | | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | | | | | |
| WDC | 16 | 25 | 50 | 6.3 | 10 | 16 | 25 | 50 | 100 | 200 | 6.3 | 10 | 16 | 25 | 50 | 100 | 200 | 6.3 | 10 | 16 | 25 | 50 | 100 | 200 | 500 |
| Cap (pF) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | | | C | | | | | | | | | | | | | | | | | | | | | | |
| 330 | | | C | | | | | G | G | G | | J | J | J | J | J | J | | | | | | | | K |
| 470 | | | C | | | | | G | G | G | | J | J | J | J | J | J | | | | | | | | K |
| 680 | | | C | | | | | G | G | G | | J | J | J | J | J | J | | | | | | | | K |
| 1000 | | | C | | | | | G | G | G | | J | J | J | J | J | J | | | | | | | | K |
| 1500 | | | C | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | M |
| 2200 | | | C | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | M |
| 3300 | | C | C | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | M |
| 4700 | | C | C | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | M |
| 6800 | G | C | C | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | P |
| Cap (µF) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.010 | C | C | | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | P |
| 0.015 | C | C | | | | | | G | G | G | | J | J | J | J | J | J | | J | J | J | J | J | J | M |
| 0.022 | C | C | | | | | | G | G | G | | J | J | J | J | J | N | | J | J | J | J | J | J | M |
| 0.033 | | | | | | | | G | G | G | | J | J | J | J | N | N | | J | J | J | J | J | J | M |
| 0.047 | | | | | | | G | G | G | G | | J | J | J | J | N | N | | J | J | J | J | J | J | M |
| 0.068 | | | | | | | G | G | G | G | | J | J | J | J | N | N | | J | J | J | J | J | J | P |
| 0.10 | | C* | | | | | G | G | G | G | | J | J | J | J | N | N | | J | J | J | J | J | M | P |
| 0.15 | | | | G | G | G | | | | | | J | J | J | N | N | N | | J | J | J | J | J | J | Q |
| 0.22 | | | | G | G | G | | | | | | J | J | N | N | N | N | | J | J | J | J | J | J | Q |
| 0.33 | | | | | | | | | | | | N | N | N | N | N | N | | J | J | M | P | Q | Q | |
| 0.47 | | | | | | | J* | | | | | N | N | N | N | N | N | | M | M | M | P | Q | Q | |
| 0.68 | | | | | | | J* | J* | | | | N | N | N | | | | | M | M | Q | Q | Q | Q | |
| 1.0 | | | | | | | J* | J* | | | | N | N | N* | | | | | M | M | Q | Q | Q | Q | |
| 1.5 | | | | | | | | | | | | | | | | | | | P | Q | Q | Q | | | |
| 2.2 | | | | J* | | | | | | | | | | | P* | | | | Q | Q | Q | | | | |
| 3.3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.7 | | | | | | | | | | | | | P* | P* | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | Q* | Q* | Q* | | | | |
| 22 | | | | | | | | | | | | | | | | | | | Q* | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | | | | | | | | | | | | | |
| WDC | 16 | 25 | 50 | 6.3 | 10 | 16 | 25 | 50 | 100 | 200 | 6.3 | 10 | 16 | 25 | 50 | 100 | 200 | 6.3 | 10 | 16 | 25 | 50 | 100 | 200 | 500 |
| SIZE | LD02 | | | LD03 | | | | | | LD05 | | | | | | LD06 | | | | | | | | | |

| Letter | A | C | E | G | J | K | M | N | P | Q | X | Y | Z |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Thickness | 0.33 (0.013) | 0.56 (0.022) | 0.71 (0.028) | 0.90 (0.035) | 0.94 (0.037) | 1.02 (0.040) | 1.27 (0.050) | 1.40 (0.055) | 1.52 (0.060) | 1.78 (0.070) | 2.29 (0.090) | 2.54 (0.100) | 2.79 (0.110) |
| | PAPER | | | | | EMBOSSSED | | | | | | | |

= Under Development

MLCC Tin/Lead Termination “B”



Capacitance Range (X7R Dielectric)

PREFERRED SIZES ARE SHADED

| SIZE | | LD10 | | | | | | | LD12 | | | | LD13 | | LD20 | | | | LD14 | |
|--------------|----------|--------------------------------|----|----|----|-----|-----|-----|--------------------------------|-----|-----|-----|--------------------------------|-----|--------------------------------|----|-----|-----|--------------------------------|-----|
| Soldering | | Reflow Only | | | | | | | Reflow Only | | | | Reflow Only | | Reflow Only | | | | Reflow Only | |
| Packaging | | Paper/Embossed | | | | | | | All Embossed | | | | All Embossed | | All Embossed | | | | All Embossed | |
| (L) Length | mm (in.) | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | | | 4.50 ± 0.30 (0.177 ± 0.012) | | | | 4.50 ± 0.30 (0.177 ± 0.012) | | 5.70 ± 0.40 (0.225 ± 0.016) | | | | 5.72 ± 0.25 (0.225 ± 0.010) | |
| (W) Width | mm (in.) | 2.50 ± 0.20 (0.098 ± 0.008) | | | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | 6.40 ± 0.40 (0.252 ± 0.016) | | 5.00 ± 0.40 (0.197 ± 0.016) | | | | 6.35 ± 0.25 (0.250 ± 0.010) | |
| (t) Terminal | mm (in.) | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | | | 0.61 ± 0.36 (0.024 ± 0.014) | | | | 0.61 ± 0.36 (0.024 ± 0.014) | | 0.64 ± 0.39 (0.025 ± 0.015) | | | | 0.64 ± 0.39 (0.025 ± 0.015) | |
| WVDC | | 10 | 16 | 25 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 500 | 50 | 100 | 25 | 50 | 100 | 200 | 50 | 100 |
| Cap (pF) | 100 | | | | | | | | | | | | | | | | | | | |
| | 150 | | | | | | | | | | | | | | | | | | | |
| | 220 | | | | | | | | | | | | | | | | | | | |
| | 330 | | | | | | | | | | | | | | | | | | | |
| | 470 | | | | | | | | | | | | | | | | | | | |
| | 680 | | | | | | | | | | | | | | | | | | | |
| | 1000 | J | J | J | J | J | J | M | | | | | | | | | | | | |
| | 1500 | J | J | J | J | J | J | M | | | | | | | | | | | | |
| | 2200 | J | J | J | J | J | J | M | | | | | | | | | | | | |
| | 3300 | J | J | J | J | J | J | M | | | | | | | | | | | | |
| | 4700 | J | J | J | J | J | J | M | | | | | | | | | | | | |
| | 6800 | J | J | J | J | J | J | M | | | | | | | | | | | | |
| Cap (µF) | 0.010 | J | J | J | J | J | J | M | K | K | K | K | M | M | | X | X | X | M | P |
| | 0.015 | J | J | J | J | J | J | P | K | K | K | P | M | M | | X | X | X | M | P |
| | 0.022 | J | J | J | J | J | J | Q | K | K | K | P | M | M | | X | X | X | M | P |
| | 0.033 | J | J | J | J | J | J | Q | K | K | K | X | M | M | | X | X | X | M | P |
| | 0.047 | J | J | J | J | J | J | | K | K | K | Z | M | M | | X | X | X | M | P |
| | 0.068 | J | J | J | J | J | M | | K | K | K | Z | M | M | | X | X | X | M | P |
| | 0.10 | J | J | J | J | J | M | | K | K | K | Z | M | M | | X | X | X | M | P |
| | 0.15 | J | J | J | J | M | Z | | K | K | P | | M | M | | X | X | X | M | P |
| | 0.22 | J | J | J | J | P | Z | | K | K | P | | M | M | | X | X | X | M | P |
| | 0.33 | J | J | J | J | Q | | | K | M | X | | M | M | | X | X | X | M | P |
| | 0.47 | M | M | M | M | Q | | | K | P | | | M | M | | X | X | X | M | P |
| | 0.68 | M | M | P | X | X | | | M | Q | | | M | P | | X | X | | M | P |
| | 1.0 | N | N | P | X | Z | | | M | X | | | M | P | | X | X | | M | P |
| | 1.5 | N | N | Z | Z | Z | | | Z | Z | | | M | | | X | X | | M | X |
| | 2.2 | X | X | Z | Z | Z | | | Z | Z | | | | | | X | X | | M | |
| | 3.3 | X | X | Z | Z | | | | Z | | | | | | | X | Z | | | |
| | 4.7 | X | X | Z | Z | | | | Z | | | | | | | X | Z | | | |
| | 10 | Z | Z | Z | | | | | | | | | | | | Z | | | | |
| | 22 | Z | Z | | | | | | | | | | | | Z | | | | | |
| | 47 | | | | | | | | | | | | | | | | | | | |
| | 100 | | | | | | | | | | | | | | | | | | | |
| WVDC | | 10 | 16 | 25 | 50 | 100 | 200 | 500 | 50 | 100 | 200 | 500 | 50 | 100 | 25 | 50 | 100 | 200 | 50 | 100 |
| SIZE | | LD10 | | | | | | | LD12 | | | | LD13 | | LD20 | | | | LD14 | |

| Letter | A | C | E | G | J | K | M | N | P | Q | X | Y | Z |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Thickness | 0.33 (0.013) | 0.56 (0.022) | 0.71 (0.028) | 0.90 (0.035) | 0.94 (0.037) | 1.02 (0.040) | 1.27 (0.050) | 1.40 (0.055) | 1.52 (0.060) | 1.78 (0.070) | 2.29 (0.090) | 2.54 (0.100) | 2.79 (0.110) |
| | PAPER | | | | | EMBOSS | | | | | | | |



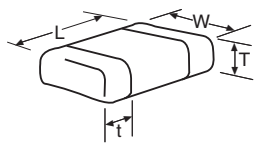
MLCC Tin/Lead Termination “B”



Capacitance Range (X5R Dielectric)

PREFERRED SIZES ARE SHADED

| SIZE | LD02 | | LD03 | | | | | LD05 | | | | | LD06 | | | | | LD10 | | | | | LD12 | | | | |
|--------------|-------------|--------------------------------|--------------------------------|--------------------|--------------------|--------------------|----------------------|--------------------------------|--------------------|--------------------|--------------------|----------------------|--------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------------------|--|--|--|--|------|--|--|--|--|
| Soldering | Reflow/Wave | | Reflow/Wave | | | | | Reflow/Wave | | | | | Reflow/Wave | | | | | Reflow/Wave | | | | | | | | | |
| Packaging | All Paper | | All Paper | | | | | Paper/Embossed | | | | | Paper/Embossed | | | | | Paper/Embossed | | | | | | | | | |
| (L) Length | mm (in.) | 1.00 ± 0.10 (0.040 ± 0.004) | 1.60 ± 0.15 (0.063 ± 0.006) | | | | | 2.01 ± 0.20 (0.079 ± 0.008) | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | 3.20 ± 0.20 (0.126 ± 0.008) | | | | | | | | | |
| (W) Width | mm (in.) | 0.50 ± 0.10 (0.020 ± 0.004) | 0.81 ± 0.15 (0.032 ± 0.006) | | | | | 1.25 ± 0.20 (0.049 ± 0.008) | | | | | 1.60 ± 0.20 (0.063 ± 0.008) | | | | | 2.50 ± 0.20 (0.098 ± 0.008) | | | | | | | | | |
| (t) Terminal | mm (in.) | 0.25 ± 0.15 (0.010 ± 0.006) | 0.35 ± 0.15 (0.014 ± 0.006) | | | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | 0.50 ± 0.25 (0.020 ± 0.010) | | | | | | | | | |
| WVDC | | 4 6.3 10 16 25 50 | 4 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 4 6.3 10 16 25 35 50 | 4 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 4 6.3 10 16 25 35 50 | 4 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | 6.3 10 16 25 35 50 | | | | | | | | | | |
| Cap (pF) | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 220 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 330 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 470 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 680 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 0.010 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.015 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.022 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 0.033 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.047 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.068 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.22 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.33 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 0.47 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0.68 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2.2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3.3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 4.7 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap (µF) | 47 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | |



| Letter | A | C | E | G | J | K | M | N | P | Q | X | Y | Z |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Thickness | 0.33 (0.013) | 0.56 (0.022) | 0.71 (0.028) | 0.90 (0.035) | 0.94 (0.037) | 1.02 (0.040) | 1.27 (0.050) | 1.40 (0.055) | 1.52 (0.060) | 1.78 (0.070) | 2.29 (0.090) | 2.54 (0.100) | 2.79 (0.110) |
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- = Under Development
 - = *Optional Specifications – Contact factory
- NOTE: Contact factory for non-specified capacitance values

