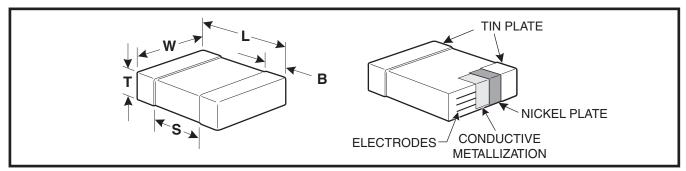


FEATURES

- C0G (NP0), X7R, X5R, Z5U and Y5V Dielectrics
- 10, 16, 25, 50, 100 and 200 Volts
- Standard End Metalization: Tin-plate over nickel barrier
- Available Capacitance Tolerances: ±0.10 pF; ±0.25 pF; ±0.5 pF; ±1%; ±2%; ±5%; ±10%; ±20%; and +80%-20%
- Tape and reel packaging per EIA481-1. (See page 92 for specific tape and reel information.) Bulk Cassette packaging (0402, 0603, 0805 only) per IEC60286-6 and EIAJ 7201.
- RoHS Compliant

CAPACITOR OUTLINE DRAWINGS



DIMENSIONS—MILLIMETERS AND (INCHES)

| EIA SIZE CODE | METRIC SIZE CODE | L - LENGTH | W - WIDTH | T THICKNESS | B - BANDWIDTH | S SEPARATION minimum | MOUNTING TECHNIQUE |
|------------------|---------------------|-------------------------|---------------------------|----------------|--------------------------|----------------------------|-----------------------|
| 0201* | 0603 | 0.6 (.024) ± .03 (.001) | 0.3 ± (.012) ± .03 (.001) | | 0.15 (.006) ± .05 (.002) | N/A | Solder Reflow |
| 0402* | 1005 | 1.0 (.04) ± .05 (.002) | 0.5 (.02) ± .05 (.002) | | 0.20 (.008)40 (.016) | 0.3 (.012) | Solder Reliow |
| 0603 | 1608 | 1.6 (.063) ± .15 (.006) | 0.8 (.032) ± .15 (.006) | | 0.35 (.014) ± .15 (.006) | 0.7 (.028) | |
| 0805* | 2012 | 2.0 (.079) ± .20 (.008) | 1.25 (.049) ± .20 (.008) | | 0.50 (.02) ± .25 (.010) | 0.75 (.030) | Solder Wave + or |
| 1206* | 3216 | 3.2 (.126) ± .20 (.008) | 1.6 (.063) ± .20 (.008) | See page 78 | 0.50 (.02) ± .25 (.010) | N/A | Solder Reflow |
| 1210* | 3225 | 3.2 (.126) ± .20 (.008) | 2.5 (.098) ± .20 (.008) | for thickness | 0.50 (.02) ± .25 (.010) | N/A | |
| 1808 | 4520 | 4.5 (.177) ± .30 (.012) | 2.0 (.079) ± .20 (.008) | dimensions. | 0.60 (.024) ± .35 (.014) | N/A | |
| 1812 | 4532 | 4.5 (.177) ± .30 (.012) | 3.2 (.126) ± .30 (.012) | | 0.60 (.024) ± .35 (.014) | N/A | |
| 1825* | 4564 | 4.5 (.177) ± .30 (.012) | 6.4 (.252) ± .40 (.016) | | 0.60 (.024) ± .35 (.014) | N/A | Solder Reflow |
| 2220 | 5650 | 5.6 (.220) ± .40 (.016) | 5.0 (.197) ± .40 (.016) | | 0.60 (.024) ± .35 (.014) | N/A | 1 |
| 2225 | 5664 | 5.6 (.220) ± .40 (.016) | 6.3 (.248) ± .40 (.016) | | 0.60 (.024) ± .35 (.014) | N/A | |

* Note: Indicates EIA Preferred Case Sizes (Tightened tolerances apply for 0402, 0603, and 0805 packaged in bulk bassette, see page 96.) + For extended value 1210 case size - solder reflow only.

| CAPACITOR ORDERING <u>C</u> 0805 <u>C</u> 103 <u>K</u> | G INFORMATION(Standard Chips - For Military see page 87)5RA5RC* |
|--|---|
| CERAMIC | C-Standard (Tin-plated nickel barrier) |
| CAPACITANCE CODE Expressed in Picofarads (pF) | A- Not Applicable |
| First two digits represent significant figures. Third digit specifies number of zeros. (Use 9 for 1.0 through 9.9pF. Use 8 for 0.5 through 0.99pF) (Example: 2.2pF = 229 or 0.50 pF = 508) CAPACITANCE TOLERANCE $B - \pm 0.10pF$ J $- \pm 5\%$ $C - \pm 0.25pF$ K $- \pm 10\%$ $D - \pm 0.5pF$ M $- \pm 20\%$ | TEMPERATURE CHARACTERISTIC Designated by Capacitance Change Over Temperature Range G - C0G (NP0) (±30 PPM/°C) R - X7R (±15%) (-55°C + 125°C) P- X5R (±15%) (-55°C + 85°C) U - Z5U (+22%, -56%) (+10°C + 85°C) V - Y5V (+22%, -82%) (-30°C + 85°C) VOLTAGE |
| $F - \pm 1\%$ $P - (GMV) - special order only$ $G - \pm 2\%$ $Z - +80\%$, -20% | 1 - 100V 3 - 25V 2 - 200V 4 - 16V 5 - 50V 8 - 10V |
| * Part Number Example: C0805C10 | |

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CERAMIC CHIP/STANDARD

| | A 1 | | C0204+ | | | | | AN | | nAI | | | 201 | , 040 | JZ, 1 | 000 | | | , 12 | 00 | | | ~ | 1206* | | |
|---|--|---|--|--|-----|-------|-----|--|--|-----|---|--|---|-------|---|---|--|--|---|------|-----|-----|-----|--------------|------|--|
| Cap pF | Cap Code | Cap Tolerance | 25V | 10V | 16V | 25V | 50V | 100V | 10V | 16V | 25V | 50V | 100V | 200V | 10V | 16V | 25V | 805* 50V | 100V | 200V | 10V | 16V | 25V | 1206* 50V | 100V | 200V |
| Cap pF 0.050 0.750 0.751 1.0 1.13 1.5 1.6 1.8 2.0 2.24 2.7 3.0 3.3 3.6 3.9 4.3 4.7 5.6 8.2 9.1 10.0 11.0 12.0 13.0 15.0 14.0 22.0 24.0 27.0 33.0 36.0 37.0 38.0 39.0 43.0 47.0 51.0 550.0 82.0 91.0 100.0 120.0 220.0 240.0 220.0 220.0 220.0 220.0 220.0 | Cap Code 508 758 758 758 758 758 758 758 758 758 75 | C,D C,D C,D C,D C,D C,D C,D C,D C,D C,D | C0201* 25V AA^ AA- AA- | | 1 | C0402 | * | | | | CO | 603* | | - | | | CO | 805* | - | | | | | | | |
| 330.0 360.0 390.0 430.0 510.0 560.0 560.0 620.0 680.0 910.0 1200.0 1200.0 1200.0 1200.0 1200.0 1200.0 1200.0 1200.0 1200.0 1200.0 1200.0 2200.0 2200.0 2400.0 3000.0 3000.0 3000.0 3000.0 3000.0 3000.0 5100.0 5600.0 9100.0 15.000.0 5500.0 910.0 15.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 5500.0 910.0 10.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 910.000.0 900.000.0 900.000.0 900.000.000. | 391 431 471 511 511 621 621 621 621 621 751 102 112 2132 2132 2122 2132 2222 222 222 2 | F,G,JK,MF,G,JK,M F,G,JK,M F,G,JK,MF,G,JK,M F,G,JK,MF,G,JK,M F,G,JK,MF,G | | 88 88 88 88 88 88 88 88 88 88 88 88 88 | | | | 88 88 88 88 88 88 88 88 88 88 88 88 88 | සි ස | | 888888888888888888888888888888888888888 | සි ස | 8 | | DC DC DC DC DC DC DC DC DC DC DC DC DC D | B C C C C C C C C C C C C C C C C C C C | 22232222222222222222222222222222222222 | 22222222222222222222222222222222222222 | 8 H 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | | | | | BB BB BB CCCCED BB BB CCC BD BD EB CCC |

COG CAPACITANCE RANGE - 0201, 0402, 0603, 0805, 1206

* Indicates EIA preferred chip sizes.

NOTE: For non-standard capacitance values or voltages, contact your local KEMET sales representative. 50 Volt Ceramic Chips can be used in 63 volt applications.

Improved product with higher ratings and tighter capacitance tolerance product may be substituted within the same size (length, width, and thickness) at KEMET's option. Reels with such substitutions will be marked with the improved KEMET part numbers.

• Greater or equal to J (5%) tolerance available. • J Tolerance Only; ^ = D Tolerance Only ~ = J,K,M Tolerance Only

See page 78 for Thickness Code Reference Chart.

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Ceramic Surface Mount



CERAMIC CHIP/STANDARD

COG CAPACITANCE RANGE - 1210, 1812, 1825, 2220, 2225

| Cap | Cap | Cap | | | C1 | 210* | | | | C1812 | • | | C1825 | j* | | C222 | 0 | | C222 | i |
|----------------------|------------|------------------------|----------|----------|----------|----------|----------|----------|-----|-------|------|-----|-------|------|----------|----------|------|-----|------|------|
| pF | Code | Tolerance | 10V | 16V | 25V | 50V | 100V | 200V | 50V | 100V | 200V | 50V | 100V | 200V | 50V | 100V | 200V | 50V | 100V | 200V |
| 0.5-2.4 | 508-249 | D | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 2.7-9.1 | 279-919 | D K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 10.0-13.0 | 100-130 | D J,K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 15.0-24.0 | 150-240 | D G,J,K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 27.0-51.0 | 270-510 | D,F,G,J,K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 56.0-82.0 | 560-820 | F,G,J,K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 91.0-360.0 | 910-361 | F,G,J,K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 390.0 | 391 | F.G.J.K.M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 430.0 470.0 | 431 471 | F,G,J,K,M F.G.J.K.M | FB FB | FB FB | FB FB | FB FB | FB FB | FB FB | GB | GB | GB | | | | | | | | | |
| 510.0 | 511 | F.G.J.K.M | FB | FB | FB | FB | FB | FB | GB | GB | GB | _ | | | | | | _ | | |
| 560.0 | 561 | F,G,J,K,M | FB | FB | FB | FB | FB | FB | GB | GB | GB | | | | | | | | | |
| 620.0 | 621 | F.G.J.K.M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 680.0 | 681 | F.G.J.K.M | FB | FB | FB | FB | FB | FB | GB | GB | GB | | | | | | | | | |
| 750.0 | 751 | F,G,J,K,M | FB | FB | FB | FB | FB | FB | | | - | | | | | | | | | |
| 820.0 | 821 | F.G.J.K.M | FB | FB | FB | FB | FB | FB | GB | GB | GB | | | | | | | | | |
| 910.0 | 911 | F,G,J,K,M | FB | FB | FB | FB | FB | FB | | | | | | | | | | | | |
| 1,000.0 | 102 | F,G,J,K,M | FB | FB | FB | FB | FB | FB | GB | GB | GB | | | | | | | | | |
| 1,100.0 | 112 122 | F,G,J,K,M | FB FB | FB FB | FB FB | FB FB | FB FB | FB FB | GB | GB | GB | | | | | | | | | |
| 1,200.0 | 122 | F,G,J,K,M F.G.J.K.M | FB | FB | FB | FB | FB | FC | GB | GB | GB | | | | | | | | | |
| 1,500.0 | 152 | F,G,J,K,M | FB | FB | FB | FB | FB | FE | GB | GB | GB | | | | | | | | | |
| 1,600.0 | 162 | F.G.J.K.M | FB | FB | FB | FB | FB | FE | 55 | 00 | 00 | | | | | | | | | |
| 1.800.0 | 182 | F.G.J.K.M | FB | FB | FB | FB | FB | FE | GB | GB | GB | | | | | | | | | |
| 2,000.0 | 202 | F,G,J,K,M | FB | FB | FB | FB | FC | FE | | | | | | | | | | | | |
| 2,200.0 | 222 | F,G,J,K,M | FB | FB | FB | FB | FC | FG | GB | GB | GB | | | | | | | | | |
| 2,400.0 | 242 | F,G,J,K,M | FB | FB | FB | FB | FC | FC | | | | | | | | | | | | |
| 2,700.0 | 272 | F,G,J,K,M | FB | FB | FB | FB | FC | FC | GB | GB | GB | | | | | | | | | |
| 3,000.0 | 302 | F,G,J,K,M | FB | FB | FB | FB | FC | FF | | | ~~ | | | | | | | | | |
| 3,300.0 | 332 362 | F,G,J,K,M F.G.J.K.M | FB | FB | FB | FB | FF | FF | GB | GB | GB | _ | | | | _ | | _ | | |
| 3,600.0 3,900.0 | 362 | F,G,J,K,M F,G,J,K,M | FB | FB | FB | FB | FF | FF | GB | GB | GB | нв | нв | нв | | | | | | |
| 4.300.0 | 432 | F.G.J.K.M | FB | FB | FB | FB | FF | FF | GD | GB | GB | пь | пь | пь | | | | | | |
| 4,700.0 | 472 | F.G.J.K.M | FF | FF | FF | FF | FG | FG | GB | GB | GD | HB | HB | HB | | | | кв | КВ | КВ |
| 5,100.0 | 512 | F.G.J.K.M | FB | FB | FB | FB | FG | FG | | | | | | | | | | | | |
| 5,600.0 | 562 | F,G,J,K,M | FB | FB | FB | FB | FG | FG | GB | GB | GH | HB | HB | HB | | | | KB | KB | KB |
| 6,200.0 | 622 | F,G,J,K,M | FB | FB | FB | FB | FG | | | | | | | | | | | | | |
| 6,800.0 | 682 | F,G,J,K,M | FB | FB | FB | FB | FG | | GB | GB | GJ | HB | HB | HB | JB | JB | | KB | KB | KB |
| 7,500.0 | 752 | F,G,J,K,M | FC | FC | FC | FC | FC | | | | | | | | | | | | | |
| 8,200.0 | 822 | F.G.J.K.M | FC | FC | FC | FC | FC | | GB | GH | | HB | HB | HB | JB | JB | | KB | KB | KB |
| 9,100.0 10.000.0 | 912 103 | F.G.J.K.M F.G.J.K.M | FE | FE | FE | FE | FE FF | | GB | GH | | нв | нв | HE | JB | JB | | кв | кв | кв |
| 12.000.0 | 123 | F,G,J,K,M | FG | FG | FG | FG | FB | | GB | GG | | HB | HB | HE | JB | JB | | KB | KB | KB |
| 15.000.0 | 153 | F,G,J,K,M | FG | FG | FG | FG | FB | | GB | GB | | HB | HB | | JB | JB | | KB | KB | KE |
| 18,000.0 | 183 | F,G,J,K,M | FB | FB | FB | FB | FB | | GB | GB | | HB | HE | | JB | JB | | KB | KB | |
| 22,000.0 | 223 | F,G,J,K,M | FB | FB | FB | FB | FB | | GB | GB | | HB | HE | | JB | JB | | KB | KB | |
| 27,000.0 | 273 | F,G,J,K,M | FB | FB | FB | FB | FB | | GB | GB | | HB | HF | | JB | JB | | KB | KE | |
| 33,000.0 | 333 | F,G,J,K,M | FB | FB | FB | FB | FB | | GB | GB | | | | | JB | JB | | KB | | |
| 47,000.0 | 473 | F.G.J.K.M | FB | FB | FB | FB | FE | | GB | GB | | | | | JB | JB | | | | |
| 56,000.0 68.000.0 | 563 683 | F,G,J,K,M F.G.J.K.M | FB | FB | FB | FB | FF | | GB | GB | | | | | JB JB | JB JB | | | | |
| 82.000.0 | 823 | F,G,J,K,M F,G,J,K,M | FC | FC | FC | FF | FH | | GB | GB | | | | | JB | JB | | | | |
| 100.000.0 | 104 | F.G.J.K.M | FE | FE | FE | FG | FM+ | | GB | GD | | | | | JB | JB | | | | |
| 120.000.0 | 124 | F.G.J.K.M | FG | FG | FG | FH | | | GB | GH | | | | | JB | JB | | | | |
| 150,000.0 | 154 | F,G,J,K,M | FH | FH | FH | FM+ | | | GD | GN | | | | | JB | JB | | | | |
| 220,000.0 | 224 | | FK+ | FK+ | FK+ | | | | GK | | | | | | JB | JD | | | | |
| 270,000.0 | 274 | F.G.J.K.M | | | | | | | | | | | | | JB | JF | | | | |
| 330,000.0 | 334 | F.G.J.K.M | | | | | | | | | | | | | JD | JH | | | | |
| 470,000.0 | 474 | F,G,J,K,M | | | | | | | | | | | | | JG | | | | | |
| 560,000.0 | 564 | F,G,J,K,M | | | | | | | | | | | | | | | | | | |

X7R CAPACITANCE RANGE - 0402, 0603, 0805, 1206

| Сар | Cap | Cap Tol | | | C0402 | | | | | | C0603 | | | | | | | C0805 | | | | | | | C1206 | | | |
|------------------------|------------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|------------|------------|----------|----------|----------|----------|
| pF | Code | | 6.3V | 10V | 16V | 25V | 50V | 6.3V | 10V | 16V | 25V | 50V | 100V | 200V | 6.3V | 10V | 16V | 25V | 50V | 100V | 200V | 6.3V | 10V | 16V | 25V | 50V | 100V | 200V |
| 150 180 | 151 181 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | СВ | DC | | | | | | | |
| 220 | 221 | J, K, M | BB | BB | BB | BB | BB | CB | DC | | | | | | | |
| 270 330 | 271 331 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | CB CB | DC DC | | | | | | | |
| 390 | 391 | J, K, M | BB | BB | BB | BB | BB | CB | DC | | | | | | | |
| 470 | 471 | J, K, M | BB | BB | BB | BB | BB | CB | DC | | | | | | | |
| 560 680 | 561 681 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | CB CB | DC DC | | | | | | | |
| 820 | 821 | J, K, M | BB | BB | BB | BB | BB | CB | DC | DC | DC | DC | DC | DC | DČ | | | | | | | |
| 1,000 1,200 | 102 122 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | CB CB | DC DC | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB |
| 1,500 | 152 | J, K, M | BB | BB | BB | BB | BB | CB | DC | EB | EB | EB | EB | EB | EB | EB |
| 1,800 2,200 | 182 222 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | CB CB | DC DC | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB |
| 2,700 | 272 | J, K, M J, K, M | BB | BB | BB | BB | BB | CB | DC | EB | EB | EB | EB | EB | EB | EB |
| 3,300 | 332 | J, K, M | BB BB | BB | BB | BB | BB | CB | DC | EB | EB | EB | EB | EB | EB | EB |
| 3,900 4,700 | 392 472 | J, K, M J, K, M | BB | BB BB | BB BB | BB BB | BB BB | CB CB | DC DC | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB |
| 5,600 | 562 | J, K, M | BB | BB | BB | BB | BB | CB | DC | EB | EB | EB | EB | EB | EB | EB |
| 6,800 8,200 | 682 822 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | CB CB | DC DC | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB |
| 10,000 | 103 | J, K, M | BB | BB | BB | BB | BB | CB | DC | EB | EB | EB | EB | EB | EB | EB |
| 12,000 15,000 | 123 153 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB BB | BB BB | CB CB | CB CB | CB CB | CB CB | CB CB | CB CB | | DC DC | DC DC | DC DC | DC DC | DC DC | DC DD | DC DC | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB |
| 18,000 | 183 | J, K, M | BB | BB | BB | BB | BB | CB | CB | CB | CB | CB | CB | | DC | DC | DC | DC | DC | DD | DC | EB | EB | EB | EB | EB | EB | EB |
| 22,000 | | J, K, M | BB BB | BB | BB BB | BB | BB | CB | CB | CB | CB | CB | CB CB | | DC | DC | DC | DC DC | DC | DD DD | DC | EB | EB | EB | EB | EB | EB | EB |
| 27,000 33,000 | 273 333 | J, K, M J, K, M | BB | BB BB | BB | BB BB | | CB CB | CB CB | CB CB | CB CB | CB CB | СВ | | DC DC | DC DC | DC DC | DC | DC DC | DD | DE DE | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB |
| 39,000 | 393 | J, K, M | BB | BB | BB | BB | | CB | CB | CB | CB | CB | CB | | DC | DC | DC | DC | DC | DD | DE | EB | EB | EB | EB | EB | EC | EB |
| 47,000 56,000 | 473 563 | J, K, M J, K, M | BB BB | BB BB | BB BB | BB | | CB CB | CB CB | CB CB | CB CB | CB CB | СВ | | DC DD | DC DD | DC DD | DC DD | DC DD | DE DE | DG DG | EB EB | EB EB | EB EB | EB EB | EB EB | EC EB | ED ED |
| 68,000 | 683 | J, K, M | BB | BB | BB | | | CB | CB | CB | CB | CB | | | DD | DD | DD | DD | DD | DE | | EB | EB | EB | EB | EB | EB | ED |
| 82,000 100,000 | 823 104 | J, K, M J, K, M | BB BB | BB BB | BB BB | | | CB CB | CB CB | CB CB | CB CB | CB CB | | | DD DD | DD DD | DD DD | DD DD | DD DD | DE DE | | EB EB | EB EB | EB EB | EB EB | EB EB | EB EB | ED EM |
| 120,000 | 124 | J, K, M | 00 | 00 | 00 | | | CB | CB | CB | CD | CB | | | DC | DC | DC | DC | DD | DG | | EC | EC | EC | EC | EC | EC | EM |
| 150,000 180,000 | 154 | J, K, M J, K, M | | | | | | CB CB | CB CB | CB CB | | CD | | | DC DC | DC DC | DC DC | DC DC | DD DD | | | EC EC | EC EC | EC EC | EC EC | EC EC | EC EC | EG |
| 220,000 | 184 224 | J, K, M J, K, M | | | | | | CB | CB | CB | CD | | | | DC | DC | DC | DC | DD | DG | | EC | EC | EC | EC | EC | EC | |
| 270,000 | 274 | J, K, M | | | | | | CB | CB | CB | | | | | DD | DD DD | DD | DD DD | 00 | | | EB | EB | EB | EB | EC | EM | |
| 330,000 390,000 | 334 394 | J, K, M J, K, M | | | | | | CB CB | CB CB | CB CB | | | | | DD DG | DD DG | DD DG | DD DG | DD DE | | | EB EB | EB EB | EB EB | EB EB | EC EC | EG EG | |
| 470,000 | 474 | J, K, M | | | | | | CB | CB | ĊВ | | | | | DD | DD | DD | DD | DE | | | EC | EC | EC | EC | EC | EG | |
| 560,000 680,000 | 564 684 | J, K, M J, K, M | | | | | | | | | | | | | DD DD | DD DD | DD DD | DG DG | DH DH | | | ED EE | ED EE | ED EE | ED EE | EC ED | | |
| 820,000 | 824 | J, K, M | | | | | | | | | | | | | DD | DD | DD | DG | | | | EF | EF | EF | EF | ED | | |
| 1,000,000 1,200,000 | 105 125 | J, K, M J, K, M | | | | | | CC* | CC* | CC* | | | | | DD DE | DD DE | DD DE | DG | | | | EF ED | EF ED | EF ED | EG EG | ED EH | | |
| 1,500,000 | 155 | J, K, M | | | | | | | | | | | | | DG | DG | DG | | | | | EF | EF | EF | EG | EH | | |
| 1,800,000 2,200,000 | 185 225 | J, K, M J, K, M | | | | | | | | | | | | | DG | DG DG | DG DG | | | | | EF ED | EF | EF ED | EF | EH | | |
| 2,200,000 | 225 | J, K, M J, K, M | | | | | | | | | | | | | DG | DG | DG | | | | | EN | EN | EN | 27 | EH | | |
| 3,300,000 | 335 | J, K, M | | | | | | | | | | | | | | | | | | | | ED | ED | ED | EH | | | |
| 3,900,000 4,700,000 | 395 475 | J, K, M J, K, M | | | | | | | | | | | | | | | | | | | | EF EF+ | EF EF+ | EF EF+ | EH+ | | | |
| 5,600,000 | 565 | J, K, M | | | | | | | | | | | | | | | | | | | | EH+ | EH+ | EH+ | | | | |
| 6,800,000 8,200,000 | 685 825 | J, K, M J, K, M | | | | | | | | | | | | | | | | | | | | EH+ EH+ | EH+ EH+ | EH+ EH+ | | | | |
| 10,000,000 | | J, K, M | | | | | | | | | | | | | | | | | | | | EH+ | EH+ | EH+ | | | | |

* Capacitance K or M. ontact KEMET Sales Rep for J tolerance availability. +_ Reflow Only. NOTE: For non-standard capacitance values or voltages, contact your local KEMET sales representative.

Improved product with higher ratings and tighter capacitance tolerance product may be substituted within the same size (length, width, and thickness) at KEMET's option. Reels with such substitutions will be marked with the improved KEMET part numbers.

See page 78 for Thickness Code Reference Chart.

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| Thickness Code | Chip Size | Chip Thickness Range (mm) | Qty per Reel 7" Plastic | Qty per Reel 13" Plastic | Qty per Reel 7" Paper | Qty per Reel 13" Paper | Qty per Bull Cassette |
|-------------------|---------------------|------------------------------------|----------------------------|-----------------------------|--------------------------|---------------------------|--------------------------|
| AA | 0201 | 0.30 ± 0.03 | N/A | N/A | 15,000 | N/A | N/A |
| BB | 0402 | 0.50 ± 0.05 | N/A | N/A | 10,000 | 50,000 | 50,000 |
| CB | 0603 | 0.80 ± 0.07 | N/A | N/A | 4,000 | 10,000 | 15,000 |
| CC | 0603 | 0.80 ± 0.10 | N/A | N/A | 4,000 | 10,000 | N/A |
| CD DB | 0603 | 0.80 ± 0.15 | N/A N/A | N/A | 4,000 4,000 | 10,000 | N/A |
| DD | 0805 0805 | 0.60 ± 0.10 0.78 ± 0.10 | N/A N/A | N/A N/A | 4,000 | 10,000 10,000 | 10,000 N/A |
| DD | 0805 | 0.78 ± 0.10 0.90 ± 0.10 | N/A | N/A | 4,000 | 10,000 | N/A |
| DE | 0805 | 1.00 ± 0.10 | 2,500 | 10,000 | N/A | N/A | N/A |
| DF | 0805 | 1.10 ± 0.10 | 2,500 | 10,000 | N/A | N/A | N/A |
| DG | 0805 | 1.25 ± 0.15 | 2,500 | 10,000 | N/A | N/A | N/A |
| DH | 0805 | 1.25 ± 0.20 | 2,500 | 10,000 | N/A | N/A | N/A |
| DJ | 0805 | 1.25 ± 0.20 | 3,000 | N/A | N/A | N/A | N/A |
| DK | 0805 | 1.25 ± 0.15 | 3,000 | N/A | N/A | N/A | N/A |
| DL | 0805 | 0.95 ± 0.10 | 4,000 | 10,000 | N/A | N/A | N/A |
| EB EC | 1206 | 0.78 ± 0.10 | 4,000 | 10,000 | 4,000 | 10,000 N/A | N/A |
| ED | 1206 1206 | 0.90 ± 0.10 1.00 ± 0.10 | 4,000 2,500 | 10,000 10,000 | N/A N/A | N/A N/A | N/A N/A |
| EE | 1206 | 1.00 ± 0.10 1.10 ± 0.10 | 2,500 | 10,000 | N/A N/A | N/A | N/A |
| EF | 1206 | 1.20 ± 0.15 | 2,500 | 10,000 | N/A | N/A | N/A |
| EG | 1200 | 1.20 ± 0.15 1.60 ± 0.15 | 2,000 | 8,000 | N/A | N/A | N/A |
| EH | 1206 | 1.60 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| EJ | 1206 | 1.70 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| EK | 1206 | 0.80 ± 0.10 | 2,000 | 8,000 | N/A | N/A | N/A |
| EL | 1206 | 1.15 ± 0.15 | 2,000 | 8,000 | N/A | N/A | N/A |
| EM | 1206 | 1.25 ± 0.15 | 2,500 | 10,000 | N/A | N/A | N/A |
| EN | 1206 | 0.95 ± 0.10 | 4,000 | 10,000 | N/A | N/A | N/A |
| FB | 1210 | 0.78 ± 0.10 | 4,000 | <u>10,000</u> 10.000 | N/A | N/A | N/A |
| FC FD | <u>1210</u> 1210 | 0.90 ± 0.10 0.95 ± 0.10 | 4,000 4,000 | 10,000 | N/A N/A | N/A N/A | N/A N/A |
| FE | 1210 | 1.00 ± 0.10 | 2,500 | 10,000 | N/A N/A | N/A | N/A |
| FF | 1210 | 1.10 ± 0.10 | 2,500 | 10,000 | N/A | N/A | N/A |
| FG | 1210 | 1.25 ± 0.15 | 2,500 | 10,000 | N/A | N/A | N/A |
| FH | 1210 | 1.55 ± 0.15 | 2,000 | 8,000 | N/A | N/A | N/A |
| FJ | 1210 | 1.85 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| FK | 1210 | 2.10 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| FL | 1210 | 1.40 ± 0.15 | 2,000 | 8,000 | N/A | N/A | N/A |
| FM | 1210 | 1.70 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| FN | 1210 | 1.85 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| FO FP | <u>1210</u> 1210 | 1.50 ± 0.20 | 2,000 2,000 | 8,000 8,000 | N/A N/A | N/A N/A | N/A N/A |
| FQ | 1210 | 1.60 ± 0.20 2.50 ± 0.22 | 1,500 | N/A | N/A N/A | N/A | N/A |
| FR | 1210 | 2.25 ± 0.20 | 2,000 | 8,000 | N/A | N/A | N/A |
| FS | 1210 | 2.50 ± 0.20 | 1,000 | 4,000 | N/A | N/A | N/A |
| FT | 1210 | 1.90 ± 0.20 | 1,500 | 4,000 | N/A | N/A | N/A |
| LD | 1808 | 0.90 ± 0.10 | 4,000 | 10,000 | N/A | N/A | N/A |
| GB | 1812 | 1.00 ± 0.10 | 1,000 | 4,000 | N/A | N/A | N/A |
| GC | 1812 | 1.10 ± 0.10 | 1,000 | 4,000 | N/A | N/A | N/A |
| GD | 1812 | 1.25 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| GE GF | <u>1812</u> 1812 | 1.30 ± 0.10 1.50 ± 0.10 | 1,000 1,000 | 4,000 | N/A N/A | N/A N/A | N/A N/A |
| GG | 1812 | 1.50 ± 0.10 1.55 ± 0.10 | 1,000 | 4,000 | N/A N/A | N/A N/A | N/A N/A |
| GH | 1812 | 1.40 ± 0.15 | 1,000 | 4,000 | N/A | N/A N/A | N/A N/A |
| GJ | 1812 | 1.70 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| GK | 1812 | 1.60 ± 0.20 | 1,000 | 4,000 | N/A | N/A | N/A |
| GL | 1812 | 1.90 ± 0.20 | 1,000 | 4,000 | N/A | N/A | N/A |
| GM | 1812 | 2.00 ± 0.20 | 1,000 | 4,000 | N/A | N/A | N/A |
| GN | 1812 | 1.70 ± 0.20 | 1,000 | 4,000 | N/A | N/A | N/A |
| GO | 1812 | 2.50 ± 0.20 | 500 | N/A | N/A | N/A | N/A |
| HB HC | 1825 | 1.10 ± 0.15 | 1,000 1,000 | 4,000 | N/A N/A | N/A N/A | N/A N/A |
| HD | 1825 1825 | 1.15 ± 0.15 1.30 ± 0.15 | 1,000 | 4,000 | N/A N/A | N/A N/A | N/A N/A |
| HE | 1825 | 1.40 ± 0.15 | 1,000 | 4,000 | N/A | N/A N/A | N/A |
| HF | 1825 | 1.50 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JB | 2220 | 1.00 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JC | 2220 | 1.10 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JD | 2220 | 1.30 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JE | 2220 | 1.40 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JF | 2220 | 1.50 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JG | 2220 | 1.70 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JH | 2220 | 1.80 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |
| JO KB | 2220 2225 | 2.40 ± 0.15 1.00 ± 0.15 | 500 | 2,000 | N/A N/A | N/A N/A | N/A N/A |
| KB | 2225 | 1.00 ± 0.15 1.10 ± 0.15 | <u>1,000</u> 1,000 | 4,000 4,000 | N/A N/A | N/A N/A | <u>N/A</u> |
| KD | 2225 | 1.10 ± 0.15 1.30 ± 0.15 | 1,000 | 4,000 | N/A N/A | N/A N/A | N/A |
| KE | 2225 | 1.40 ± 0.15 | 1,000 | 4,000 | N/A | N/A | N/A |

Thickness Code Reference Chart Packaging Quantity Based on Finished Chip Thickness Specifications

This chart refers to ceramic chip thickness codes on pages 73 – 76.

Note: TU suffix represents tape and reel packaging of unmarked components.

Note: TM suffix represents tape and reel packaging of marked components.

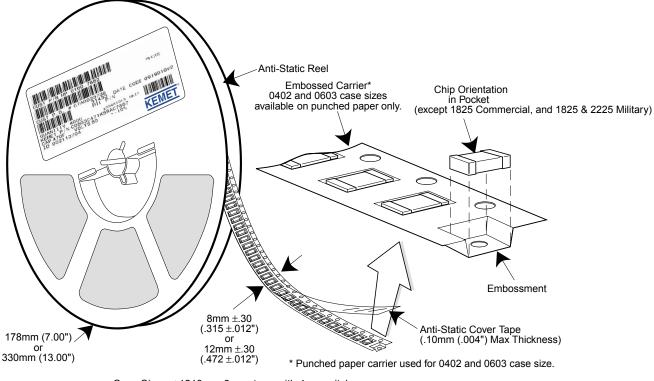
Cases sizes \leq 1210 are 8mm tape with 4mm pitch and Case Sizes >1210 are 12mm tape and 8mm pitch.



Packaging Information

Tape & Reel Packaging

KEMET offers Multilayer Ceramic Chip Capacitors packaged in 8mm and 12mm plastic tape on 7" and 13" reels in accordance with EIA standard 481-1: Taping of surface mount components for automatic handling. This packaging system is compatible with all tape fed automatic pick and place systems. See page 78 for details on reeling quantities for commercial chips and page 87 for MIL-PRF-55681 chips.



Case Sizes \leq 1210 are 8 mm tape with 4 mm pitch. Case Sizes >1210 are 12 mm tape with 8 mm pitch.

Note: TU suffix represents tape and reel packaging of unmarked components. TM suffix represents tape and reel packaging of marked components.

Reflow Solder Wave Solder Grid Placement Х Y(ref) Smin Dimension Ζ G Х Y(ref) C(ref) Ζ G Courtyard 0.74 0402 2.14 0.28 0.93 1.21 Not Recomm hah 2.78 3.30 0603 1.73 0.68 1.08 1.05 3.18 0.68 0.80 1.25 1.93 1.50 С 3.70 2.20 0805 0.70 1.60 1.30 2.00 0.70 1.10 1206 4.50 1.50 2.00 1.50 3.00 4.90 1.50 1.40 1.70 3.20 2.90 3.20 1210 4.50 1.50 1.50 3.00 4.90 1.50 2.00 1.70 3.70 1812 5.90 2.30 1.80 4.10 1825 5.90 2.30 6.90 1.80 4.10 Not Recommended 2220 7.00 3.30 5.50 1.85 5.15 2225 7.00 3.30 6.80 1.85 5.15 Calculation Formula G Z = Lmin + 2Jt + Tt

SURFACE MOUNT LAND DIMENSIONS - CERAMIC CHIP CAPACITORS - MM

7

X = Wmin + 2Js + Ts

Tt, Th, Ts = Combined tolerances

Х



TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS

Packaging Information

Performance Notes

Peel Strength

1. Cover Tape Break Force: 1.0 Kg Minimum.

2. Cover Tape Peel Strength: The total peel strength of the cover tape from the carrier tape shall be:

| Tape Width | |
|------------|-----------|
| 8 mm | 0.1 Newto |
| 12 mm | 0.1 Newto |

0.1 Newton to 1.0 Newton (10g to 100g) 0.1 Newton to 1.3 Newton (10g to 130g)

The direction of the pull shall be opposite the direction of the carrier tape travel. The pull angle of the carrier tape shall be 165° to 180° from the plane of the carrier tape. During peeling, the carrier and/or cover tape shall be pulled at a velocity of 300 ± 10 mm/minute.

- **3. Reel Sizes:** Molded tantalum capacitors are available on either 180 mm (7") reels (standard) or 330 mm (13") reels (with C-7280). Note that 13" reels are preferred.
- **4. Labeling:** Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. Refer to EIA-556.

Embossed Carrier Tape Configuration: Figure 1

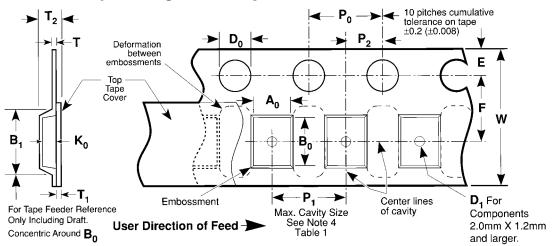


Table 1 — EMBOSSED TAPE DIMENSIONS (Metric will govern)

| | | С | onstant | Dimensions — | - Millimeters (li | nches) | | | |
|-------------|----------------------|----------------|----------------|-----------------------------|-----------------------------|-----------------|--------------------|------------------------------|--|
| Tape Size | D ₀ | | E | P₀ | P ₂ | T Max | T₁ Max | | |
| 8 mm and | 1.5 +0.10 -0 | - | ±0.10 | 4.0 ±0.10 | 2.0 ±0.05 | 0.600 | 0.100 | | |
| 12 mm | (0.059 +0.004, -0 | | ±0.004) | (0.157 ±0.004) | (0.079 ±0.002) | (0.024) | (0.004) | | |
| | | V | /ariable | Dimensions — | Millimeters (Ir | iches) | | ł | |
| Tape Size | Pitch | B₁ Max. | D₁ Min. | F | P ₁ | R Min. | T ₂ Max | W | A ₀ B ₀ K ₀ |
| | | Note 1 | Note 2 | | | Note 3 | | | Note 4 |
| 8 mm | Single (4 mm) | 4.4 | 1.0 | 3.5 ±0.05 | 4.0 ±0.10 | 25.0 | 2.5 | 8.0 ±0.30 | |
| | | (0.173) | (0.039) | (0.138 ±0.002) | (0.157 ±0.004) | (0.984) | (0.098) | (.315 ±0.012) | |
| 12 mm | Double (8 mm) | 8.2 (0.323) | 1.5 (0.059) | 5.5 ±0.05 (0.217 ±0.002) | 8.0 ±0.10 (0.315 ±0.004) | 30.0 (1.181) | 4.6 (0.181) | 12.0 ±0.30 (0.472 ±0.012) | |
| | I I | | | 1 | 1 | 1 | 1 | | 1 |

NOTES

1. B1 dimension is a reference dimension for tape feeder clearance only.

- 2. The embossment hole location shall be measured from the sprocket hole controlling the location of the embossment. Dimensions of embossment location and hole location shall be applied independent of each other.
- 3. Tape with components shall pass around radius "R" without damage (see sketch A). The minimum trailer length (Fig. 2) may require additional length to provide R min. for 12 mm embossed tape for reels with hub diameters approaching N min. (Table 2)
- 4. The cavity defined by A₀, B₀, and K₀ shall be configured to surround the part with sufficient clearance such that the chip does not protrude beyond the sealing plane of the cover tape, the chip can be removed from the cavity in a vertical direction without mechanical restriction, rotation of the chip is limited to 20 degrees maximum in all 3 planes, and lateral movement of the chip is restricted to 0.5 mm maximum in the pocket (not applicable to vertical clearance.)

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TANTALUM, CERAMIC AND ALUMINUM CHIP CAPACITORS



Packaging Information

Embossed Carrier Tape Configuration (cont.)

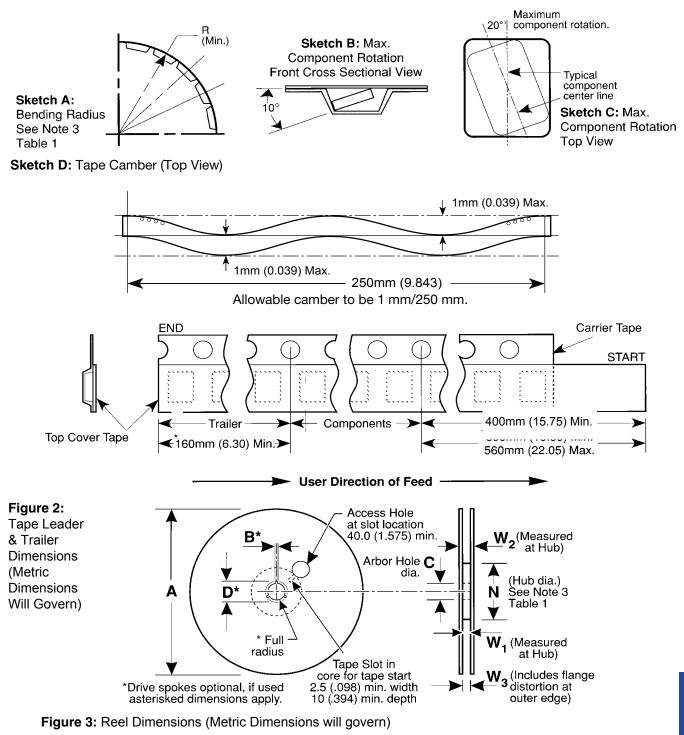


Table 2 – REEL DIMENSIONS (Metric will govern)

| Tape Size | A Max | B* Min | С | D* Min | N Min | W ₁ | W ₂ Max | W ₃ |
|-----------|-------------------|----------------|--------------------------------|-----------------|----------------------------------|---|--------------------|--|
| 8 mm | 330.0 (12.992) | 1.5 (0.059) | 13.0 ± 0.20 (0.512 ± 0.008) | 20.2 (0.795) | 50.0 (1.969) See Note 3 | 8.4 +1.5, -0.0 (0.331 +0.059, -0.0) | 14.4 (0.567) | 7.9 Min (0.311) 10.9 Max (0.429) |
| 12 mm | 330.0 (12.992) | 1.5 (0.059) | 13.0 ± 0.20 (0.512 ± 0.008) | 20.2 (0.795) | Table 1 | 12.4 +2.0, -0.0 (0.488 +0.078, -0.0) | 18.4 (0.724) | 11.9 Min (0.469) 15.4 Max (0.606) |

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Packaging Information

Punched Carrier (Paper Tape) Configuration (Ceramic Chips Only):

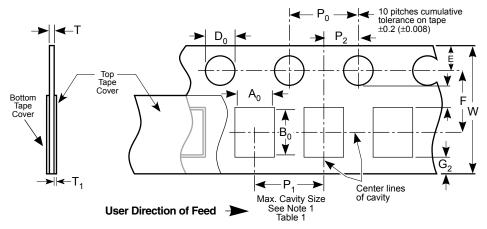


Table 1: 8 & 12mm Punched Tape (Metric Dimensions Will Govern)

Constant Dimensions - Millimeters (Inches)

| Tape Size | D ₀ | E | P ₀ | P ₂ | T ₁ | G ₁ | G ₂ | R Min. |
|--------------------|--|---|---------------------------------------|--------------------------------------|----------------|------------------------|----------------|------------------------------------|
| 8mm and 12mm | 1.5 +0.10, -0.0 (.059 +0.004, -0.0) | | 4.0 ± 0.10 (.157 ± 0.004) | 2.0 ± 0.05 (.079 \pm 0.002) | (.004) | 0.75 (.030) Min. | | 25 (.984) See Note 2 Table 1 |

Table 1: 8 & 12mm Punched Tape (Metric Dimensions Will Govern)

Variable Dimensions - Millimeters (Inches)

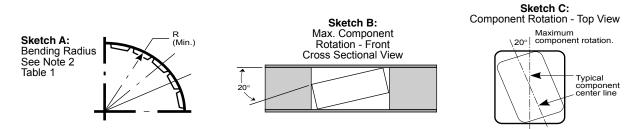
| Tape Size | P ₁ | F | W | A ₀ B ₀ | Т |
|-------------------------|---|-----------------------------|--------------------------------------|-------------------------------|--|
| 8mm 1/2 Pitch | $\begin{array}{c} 2.0 \pm 0.10 \\ (.079 \pm .004) \\ \text{See Require-} \\ \text{ments} \\ \text{Section 3.3 (d)} \end{array}$ | 3.5 ± 0.05 (.138 ± .002) | 8.0 ± 0.3 (.315 ± 0.012) | See Note 1 Table 1 | 1.1mm (.043) Max. for Paper Base Tape and 1.6mm (.063) Max. for Non- |
| 8mm | $\begin{array}{c} 4.0 \pm 0.10 \\ (0.157 \pm .004) \end{array}$ | | | | Paper Base Compositions. |
| 12mm | 4.0 ± 0.10 (0.157 ± .004) | 5.5 ± 0.05 | 12.0 ± 0.3 | | See Note 3. |
| 12mm Double Pitch | $\begin{array}{c} 8.0 \pm 0.10 \\ (0.315 \pm .004) \end{array}$ | (.217 ± .002) | (.472 ± .012) | | |

Note:

1. A_0 , B_0 and T determined by the maximum dimensions to the ends of the terminals extending from the body and/or the body dimensions of the component. The clearance between the ends of the terminals or body of the component to the sides and depth of the cavity (A_0 , B_0 and T) must be within 0.05mm (.002) minimum and 0.50mm (.020) maximum. The clearance allowed must also prevent rotation of the component within the cavity of not more than 20 degrees (see sketches A and B).

2. Tape with components shall pass around radius "R" without damage.

3. KEMET nominal thicknesses are: 0402 = 0.6mm and all others 0.95mm minimum.



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Packaging Information

Bulk Cassette Packaging (Ceramic Chips only) (Meets Dimensional Requirements IEC-286-6 and EIAJ 7201)

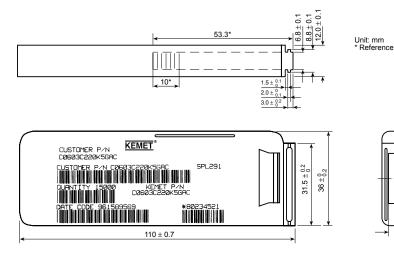


Table 2 – Capacitance Values Available In Bulk Cassette Packaging

| | | | | 5 | 5 |
|---|--------------|------------|------------------------------|--|---------------------------------|
| | Case Size | Dielectric | Voltage | Min. Cap Value | Max. Cap Value |
| | 0402 | All | All | All | All |
| | 0603 | All | All | All | All |
| | 0805 | C0G | 200 100 50 | 109 109 109 | 181 331 102 |
| | | X7R | 200 100 50 25 16 | 221 221 221 221 221 221 | 392 103 273 104 104 |
| * | | Y5V | 25 16 | 104 104 | 224 224 |

Table 1 – Capacitor Dimensions for Bulk Cassette Packaging – Millimeters

5.0

| Metric Size Code | EIA Size Code | Length L | Width W | Thickness T | Bandwidth B | Minimum Separation S | Number of Pcs/Cassette |
|------------------------|----------------------|----------------|--|--|---|----------------------------|----------------------------|
| 1005 1608 2012 | 0402 0603 0805 | 1.6 ± 0.07 | $\begin{array}{c} 0.5 \pm 0.05 \\ 0.8 \pm 0.07 \\ 1.25 \pm 0.10 \end{array}$ | $\begin{array}{c} 0.5 \pm .05 \\ 0.8 \pm .07 \\ 0.6 \pm .10 \end{array}$ | 0.2 to 0.4 0.2 to 0.5 0.5 to 0.75 | 0.3 0.7 0.75 | 50,000 15,000 10,000 |

Terminations: KEMET nickel barrier layer with a tin overplate.

CAPACITOR MARKING TABLE (Marking Optional - Not Available for 0402 Size or Y5V Dielectric)

| Numeral | ral Capacitance (pF) For Various Numeral Identifiers | | | | | | | | |
|--------------------|--|-----|----|-----|------|--------|---------|-----------|------------|
| Alpha Character | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| A | 0.10 | 1.0 | 10 | 100 | 1000 | 10,000 | 100,000 | 1,000,000 | 10,000,000 |
| В | 0.11 | 1.1 | 11 | 110 | 1100 | 11,000 | 110,000 | 1,100,000 | 11,000,000 |
| С | 0.12 | 1.2 | 12 | 120 | 1200 | 12,000 | 120,000 | 1,200,000 | 12,000,000 |
| D | 0.13 | 1.3 | 13 | 130 | 1300 | 13,000 | 130,000 | 1,300,000 | 13,000,000 |
| E | 0.15 | 1.5 | 15 | 150 | 1500 | 15,000 | 150,000 | 1,500,000 | 15,000,000 |
| F | 0.16 | 1.6 | 16 | 160 | 1600 | 16,000 | 160,000 | 1,600,000 | 16,000,000 |
| G | 0.18 | 1.8 | 18 | 180 | 1800 | 18,000 | 180,000 | 1,800,000 | 18,000,000 |
| н | 0.20 | 2.0 | 20 | 200 | 2000 | 20,000 | 200,000 | 2,000,000 | 20,000,000 |
| J | 0.22 | 2.2 | 22 | 220 | 2200 | 22,000 | 220,000 | 2,200,000 | 22,000,000 |
| К | 0.24 | 2.4 | 24 | 240 | 2400 | 24,000 | 240,000 | 2,400,000 | 24,000,000 |
| L | 0.27 | 2.7 | 27 | 270 | 2700 | 27,000 | 270,000 | 2,700,000 | 27,000,000 |
| M | 0.30 | 3.0 | 30 | 300 | 3000 | 30,000 | 300,000 | 3,000,000 | 30,000,000 |
| N | 0.33 | 3.3 | 33 | 330 | 3300 | 33,000 | 330,000 | 3,300,000 | 33,000,000 |
| Р | 0.36 | 3.6 | 36 | 360 | 3600 | 36,000 | 360,000 | 3,600,000 | 36,000,000 |
| Q | 0.39 | 3.9 | 39 | 390 | 3900 | 39,000 | 390,000 | 3,900,000 | 39,000,000 |
| R | 0.43 | 4.3 | 43 | 430 | 4300 | 43,000 | 430,000 | 4,300,000 | 43,000,000 |
| S | 0.47 | 4.7 | 47 | 470 | 4700 | 47,000 | 470,000 | 4,700,000 | 47,000,000 |
| Т | 0.51 | 5.1 | 51 | 510 | 5100 | 51,000 | 510,000 | 5,100,000 | 51,000,000 |
| U | 0.56 | 5.6 | 56 | 560 | 5600 | 56,000 | 560,000 | 5,600,000 | 56,000,000 |
| V | 0.62 | 6.2 | 62 | 620 | 6200 | 62,000 | 620,000 | 6,200,000 | 62,000,000 |
| W | 0.68 | 6.8 | 68 | 680 | 6800 | 68,000 | 680,000 | 6,800,000 | 68,000,000 |
| X | 0.75 | 7.5 | 75 | 750 | 7500 | 75,000 | 750,000 | 7,500,000 | 75,000,000 |
| Y | 0.82 | 8.2 | 82 | 820 | 8200 | 82,000 | 820,000 | 8,200,000 | 82,000,000 |
| Z | 0.91 | 9.1 | 91 | 910 | 9100 | 91,000 | 910,000 | 9,100,000 | 91,000,000 |
| а | 0.25 | 2.5 | 25 | 250 | 2500 | 25,000 | 250,000 | 2,500,000 | 25,000,000 |
| b | 0.35 | 3.5 | 35 | 350 | 3500 | 35,000 | 350,000 | 3,500,000 | 35,000,000 |
| d | 0.40 | 4.0 | 40 | 400 | 4000 | 40,000 | 400,000 | 4,000,000 | 40,000,000 |
| е | 0.45 | 4.5 | 45 | 450 | 4500 | 45,000 | 450,000 | 4,500,000 | 45,000,000 |
| f | 0.50 | 5.0 | 50 | 500 | 5000 | 50,000 | 500,000 | 5,000,000 | 50,000,000 |
| m | 0.60 | 6.0 | 60 | 600 | 6000 | 60,000 | 600,000 | 6,000,000 | 60,000,000 |
| n | 0.70 | 7.0 | 70 | 700 | 7000 | 70,000 | 700,000 | 7,000,000 | 70,000,000 |
| t | 0.80 | 8.0 | 80 | 800 | 8000 | 80,000 | 800,000 | 8,000,000 | 80,000,000 |
| у | 0.90 | 9.0 | 90 | 900 | 9000 | 90,000 | 900,000 | 9,000,000 | 90,000,000 |

Laser marking is available as an extra-cost option for most KEMET ceramic chips. Such marking is two sided, and includes a \overline{K} to identify KEMET, followed by two characters (per EIA-198 - see table below) to identify the capacitance value. Note that marking is not available for size 0402 nor for any Y5V chip. In addition, the 0603 marking option is limited to the \overline{K} only.

