

PERFORMANCE CHARACTERISTICS

GENERAL**Working Voltage:**

C0G – 50, 100 & 200 Volts
X7R – 50, 100 & 200 Volts

Temperature Characteristics:

C0G – 0 \pm 30 PPM/ $^{\circ}$ C from -55 $^{\circ}$ C to +125 $^{\circ}$ C
X7R – \pm 15% from -55 $^{\circ}$ C to +125 $^{\circ}$ C

Capacitance Tolerance:

C0G – \pm 0.5 pF, \pm 1%, \pm 2%, \pm 5%, \pm 10%, \pm 20%
(\pm 0.5 pF is tightest available tolerance)
X7R – \pm 10%, \pm 20%, -0 +100%, -20% +80%

Construction:

Monolithic block of ceramic dielectric with interdigitated internal electrodes, encapsulated in a molded case, and having axial or radial leads. Meets flame test requirements of UL Standard 94V-0.

Terminal Strength:

EIA-198 Method 303 Condition A (2.2 kg)

ELECTRICAL**Capacitance:**

Within specified tolerance when measured with 1 volt rms at 1 kHz (1000 pF or less at 1 MHz for C0G).

Dissipation Factor:

25 $^{\circ}$ C at 1 kHz (1000 pF or less at 1 MHz for C0G).
C0G – .15% maximum
X7R – 2.5% maximum

Insulation Resistance:

After 2 minutes electrification at 25 $^{\circ}$ C and rated voltage
C0G – 100K megohms or 1000 megohm - μ F, whichever is less.
X7R – 100K megohms or 1000 megohm - μ F, whichever is less.

Dielectric Withstanding Voltage:

250% of rated voltage for 5 seconds with current limited to 50 mA at 25 $^{\circ}$ C.

Life Test:

2000 hours at 200% of rated voltage at 125 $^{\circ}$ C. Post-Test limits at 25 $^{\circ}$ C are:

Capacitance Change:

C0G – less than 3% or 0.25 pF, whichever is higher
X7R – \pm 20% of initial value

Dissipation Factor:

C0G – .25% maximum
X7R – 3.0% maximum

Insulation Resistance:

C0G – 10K megohms or 100 megohm - μ F, whichever is less
X7R – 10K megohms or 100 megohm - μ F, whichever is less

Dielectric Withstanding Voltage:

250% of rated voltage for 5 seconds with current limited to 50 mA.

ENVIRONMENTAL**Moisture Resistance:**

MIL-STD-202, Method 106, or EIA-198, Method 204, Condition A, except 20 cycles.

Insulation Resistance:

C0G – 10K megohms or 100 megohm - μ F, whichever is less
X7R – 10K megohms or 100 megohm - μ F, whichever is less

Dielectric Withstanding Voltage:

250% of rated voltage for 5 seconds with current limited to 50 mA.

Immersion Cycling:

MIL-STD-202, Method 104, Condition B. Post-Test limits at 25 $^{\circ}$ C are:

Insulation Resistance:

C0G – 10K megohms or 100 megohm - μ F, whichever is less
X7R – 10K megohms or 100 megohm - μ F, whichever is less

Solderability:

MIL-STD-202, Method 208, Sn62 solder, 245 $^{\circ}$ C for 5 \pm 1/2 seconds.

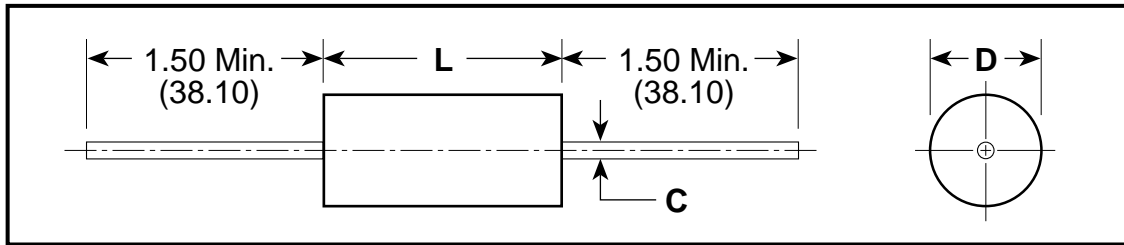
Resistance to Soldering Heat:

MIL-STD-202, Method 210, Condition B (260 $^{\circ}$ C, 10 secs).
Depth of immersion — to a minimum of .050" from the capacitor body.

Lead Material:

Axial: Solder-coated copper clad steel
Radial: Solder-coated copper

CAPACITOR OUTLINE DRAWINGS (AXIAL LEADS)

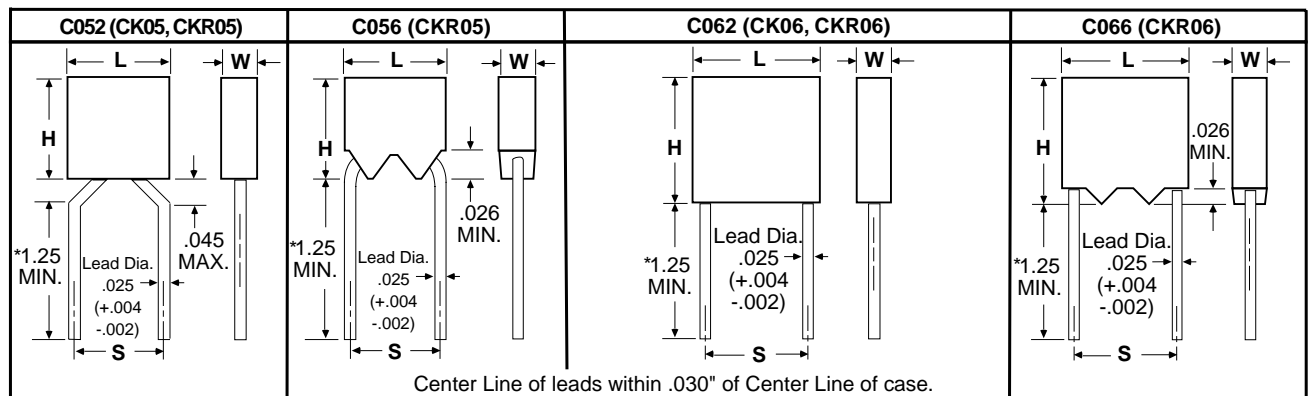


DIMENSIONS — INCHES & (MILLIMETERS)

| CASE SIZE | MILITARY EQUIVALENT STYLES | L | D | C |
|-----------|----------------------------|---------------------------|--------------------------|--------------------------------------|
| C114 | CK12, CKR11 | .160 ± .010 (4.06 ± .25) | .090 ± .010 (2.29 ± .25) | .020, +.000, -.003 (.51, +.00, -.08) |
| C124 | CK13, CKR12 | .250 ± .010 (6.35 ± .25) | .090 ± .010 (2.29 ± .25) | .020, +.000, -.003 (.51, +.00, -.08) |
| C192 | CK14, CKR14 | .390 ± .010 (9.91 ± .25) | .140 ± .010 (3.56 ± .25) | .025, +.002, -.002 (.64, +.05, -.05) |
| C202 | CK15, CKR15 | .500 ± .020 (12.70 ± .51) | .250 ± .015 (6.35 ± .38) | .025, +.002, -.002 (.64, +.05, -.05) |
| C222 | CK16, CKR16 | .690 ± .030 (17.53 ± .76) | .350 ± .020 (8.89 ± .51) | .025, +.002, -.002 (.64, +.05, -.05) |

MIL-C-11015
MIL-PRF-39014

CAPACITOR OUTLINE DRAWINGS (RADIAL LEADS)



* Leads are .625 minimum when tape and reel packaged.

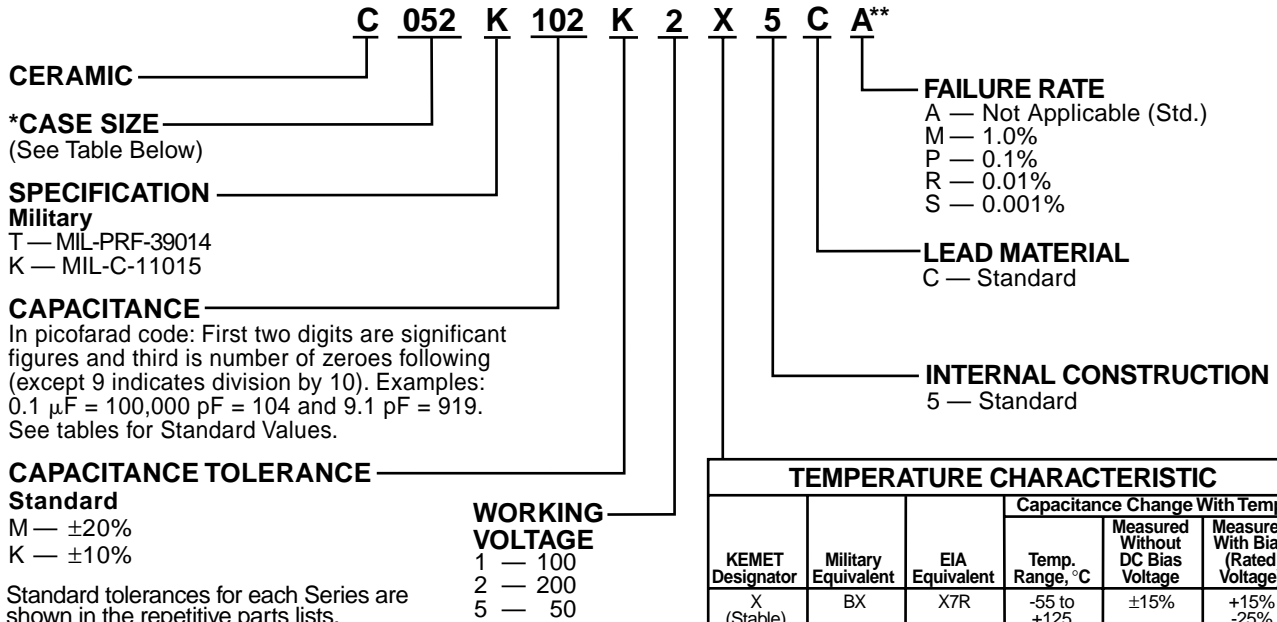
DIMENSIONS — INCHES & (MILLIMETERS)

| CASE SIZE | MILITARY EQUIVALENT STYLES | H HEIGHT | L LENGTH | W WIDTH | S LEAD SPACING |
|---------------|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| C052/ C056 | CK05, CKR05 | .190 ± .010 (4.83 ± .25) | .190 ± .010 (4.83 ± .25) | .090 ± .010 (2.29 ± .25) | .200 ± .015 (5.08 ± .38) |
| C062/ C066 | CK06, CKR06 | .290 ± .010 (7.37 ± .25) | .290 ± .010 (7.37 ± .25) | .090 ± .010 (2.29 ± .25) | .200 ± .015 (5.08 ± .38) |



CERAMIC MOLDED/MIL-C-11015 & MIL-PRF-39014 (CKR)

ORDERING INFORMATION



| TEMPERATURE CHARACTERISTIC | | | | | |
|----------------------------|---------------------|----------------|-----------------|----------------------------------|------------------------------------|
| KEMET Designator | Military Equivalent | EIA Equivalent | Temp. Range, °C | Capacitance Change With Temp. | |
| | | | | Measured Without DC Bias Voltage | Measured With Bias (Rated Voltage) |
| X (Stable) | BX | X7R | -55 to +125 | \pm 15% | +15% -25% |
| R (Stable) | BR | X7R | -55 to +125 | \pm 15% | +15% -40% |

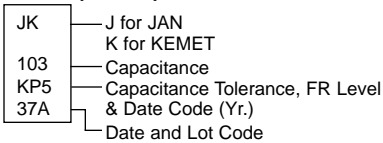
| *CASE SIZES | |
|-------------|-------|
| RADIAL | AXIAL |
| C052 | C114 |
| C056 | C124 |
| C062 | C192 |
| C066 | C202 |
| | C222 |

**Part Number Example: C052K102K2X5CA (14 digits – no spaces)

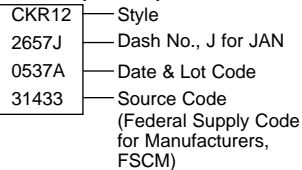
MARKING INFORMATION

C114T (CKR11) THROUGH C222T (CKR16) PER MIL-PRF-39014

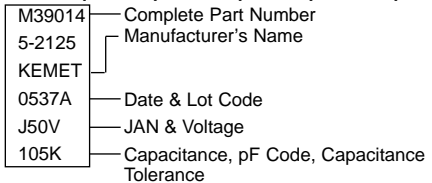
C114T (CKR11)



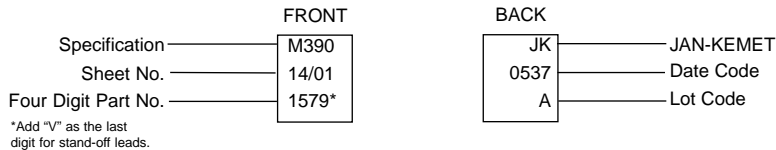
C124T (CKR12)



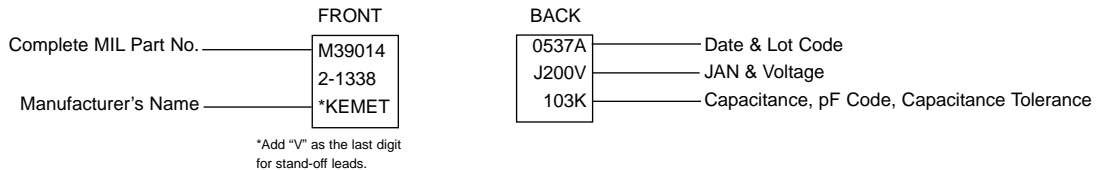
C192T (CKR14) C202T (CKR15) C222T (CKR16)



C052/56T (CKR05) PER MIL-PRF-39014/01

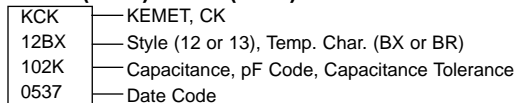


C062/66T (CKR06) PER MIL-PRF-39014/02

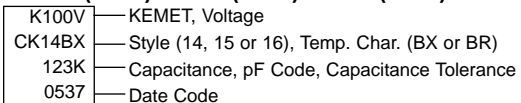


C114K (CK12) THROUGH C222K (CK16) PER MIL-C-11015

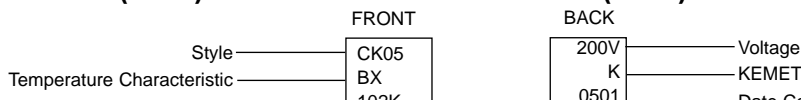
C114K (CK12) C124K (CK13)



C192K (CK14) C202K (CK15) C222K (CK16)



C052K (CK05) PER MIL-C-11015/18 & C062K (CK06) PER MIL-C-11015/19



CERAMIC MOLDED/AXIAL — MIL-C-11015 & MIL-PRF-39014

STABLE TEMPERATURE CHARACTERISTICS—BX & BR (EIA-X7R)



RATINGS & PART NUMBER REFERENCE

| CAP. pF | TOL. % | KEMET PART NUMBER | MIL-C-11015/20 | MIL-PRF-39014/05 | MIL-PRF-39014/05 For Failure Rate Levels (2) | | | |
|--|-----------|----------------------|----------------|------------------|--|------|------|------|
| | | | | | M | P | R | S |
| 100 VOLT — C114 SIZE (MILITARY—CK12 or CKR11) | | | | | | | | |
| 10 | 10 | C114(1)100K1X5C(2) | CK12BX100K | CKR11BX100K(2) | 2601 | 2801 | 2001 | 2201 |
| 10 | 20 | C114(1)100M1X5C(2) | CK12BX100M | CKR11BX100M(2) | 2602 | 2802 | 2002 | 2202 |
| 12 | 10 | C114(1)120K1X5C(2) | CK12BX120K | CKR11BX120K(2) | 2603 | 2803 | 2003 | 2203 |
| 15 | 10 | C114(1)150K1X5C(2) | CK12BX150K | CKR11BX150K(2) | 2604 | 2804 | 2004 | 2204 |
| 15 | 20 | C114(1)150M1X5C(2) | CK12BX150M | CKR11BX150M(2) | 2605 | 2805 | 2005 | 2205 |
| 18 | 10 | C114(1)180K1X5C(2) | CK12BX180K | CKR11BX180K(2) | 2606 | 2806 | 2006 | 2206 |
| 22 | 10 | C114(1)220K1X5C(2) | CK12BX220K | CKR11BX220K(2) | 2607 | 2807 | 2007 | 2207 |
| 22 | 20 | C114(1)220M1X5C(2) | CK12BX220M | CKR11BX220M(2) | 2608 | 2808 | 2008 | 2208 |
| 27 | 10 | C114(1)270K1X5C(2) | CK12BX270K | CKR11BX270K(2) | 2609 | 2809 | 2009 | 2209 |
| 33 | 10 | C114(1)330K1X5C(2) | CK12BX330K | CKR11BX330K(2) | 2610 | 2810 | 2010 | 2210 |
| 33 | 20 | C114(1)330M1X5C(2) | CK12BX330M | CKR11BX330M(2) | 2611 | 2811 | 2011 | 2211 |
| 39 | 10 | C114(1)390K1X5C(2) | CK12BX390K | CKR11BX390K(2) | 2612 | 2812 | 2012 | 2212 |
| 47 | 10 | C114(1)470K1X5C(2) | CK12BX470K | CKR11BX470K(2) | 2613 | 2813 | 2013 | 2213 |
| 47 | 20 | C114(1)470M1X5C(2) | CK12BX470M | CKR11BX470M(2) | 2614 | 2814 | 2014 | 2214 |
| 56 | 10 | C114(1)560K1X5C(2) | CK12BX560K | CKR11BX560K(2) | 2615 | 2815 | 2015 | 2215 |
| 68 | 10 | C114(1)680K1X5C(2) | CK12BX680K | CKR11BX680K(2) | 2616 | 2816 | 2016 | 2216 |
| 68 | 20 | C114(1)680M1X5C(2) | CK12BX680M | CKR11BX680M(2) | 2617 | 2817 | 2017 | 2217 |
| 82 | 10 | C114(1)820K1X5C(2) | CK12BX820K | CKR11BX820K(2) | 2618 | 2818 | 2018 | 2218 |
| 100 | 10 | C114(1)101K1X5C(2) | CK12BX101K | CKR11BX101K(2) | 2619 | 2819 | 2019 | 2219 |
| 100 | 20 | C114(1)101M1X5C(2) | CK12BX101M | CKR11BX101M(2) | 2620 | 2820 | 2020 | 2220 |
| 120 | 10 | C114(1)121K1X5C(2) | CK12BX121K | CKR11BX121K(2) | 2621 | 2821 | 2021 | 2221 |
| 150 | 10 | C114(1)151K1X5C(2) | CK12BX151K | CKR11BX151K(2) | 2622 | 2822 | 2022 | 2222 |
| 150 | 20 | C114(1)151M1X5C(2) | CK12BX151M | CKR11BX151M(2) | 2623 | 2823 | 2023 | 2223 |
| 180 | 10 | C114(1)181K1X5C(2) | CK12BX181K | CKR11BX181K(2) | 2624 | 2824 | 2024 | 2224 |
| 220 | 10 | C114(1)221K1X5C(2) | CK12BX221K | CKR11BX221K(2) | 2625 | 2825 | 2025 | 2225 |
| 220 | 20 | C114(1)221M1X5C(2) | CK12BX221M | CKR11BX221M(2) | 2626 | 2826 | 2026 | 2226 |
| 270 | 10 | C114(1)271K1X5C(2) | CK12BX271K | CKR11BX271K(2) | 2627 | 2827 | 2027 | 2227 |
| 330 | 10 | C114(1)331K1X5C(2) | CK12BX331K | CKR11BX331K(2) | 2628 | 2828 | 2028 | 2228 |
| 330 | 20 | C114(1)331M1X5C(2) | CK12BX331M | CKR11BX331M(2) | 2629 | 2829 | 2029 | 2229 |
| 390 | 10 | C114(1)391K1X5C(2) | CK12BX391K | CKR11BX391K(2) | 2630 | 2830 | 2030 | 2230 |
| 470 | 10 | C114(1)471K1X5C(2) | CK12BX471K | CKR11BX471K(2) | 2631 | 2831 | 2031 | 2231 |
| 470 | 20 | C114(1)471M1X5C(2) | CK12BX471M | CKR11BX471M(2) | 2632 | 2832 | 2032 | 2232 |
| 560 | 10 | C114(1)561K1X5C(2) | CK12BX561K | CKR11BX561K(2) | 2633 | 2833 | 2033 | 2233 |
| 680 | 10 | C114(1)681K1X5C(2) | CK12BX681K | CKR11BX681K(2) | 2634 | 2834 | 2034 | 2234 |
| 680 | 20 | C114(1)681M1X5C(2) | CK12BX681M | CKR11BX681M(2) | 2635 | 2835 | 2035 | 2235 |
| 820 | 10 | C114(1)821K1X5C(2) | CK12BX821K | CKR11BX821K(2) | 2636 | 2836 | 2036 | 2236 |
| 1,000 | 10 | C114(1)102K1X5C(2) | CK12BX102K | CKR11BX102K(2) | 2637 | 2837 | 2037 | 2237 |
| 1,000 | 20 | C114(1)102M1X5C(2) | CK12BX102M | CKR11BX102M(2) | 2638 | 2838 | 2038 | 2238 |
| 1,200 | 10 | C114(1)122K1X5C(2) | CK12BX122K | CKR11BX122K(2) | 2639 | 2839 | 2039 | 2239 |
| 1,500 | 10 | C114(1)152K1X5C(2) | CK12BX152K | CKR11BX152K(2) | 2640 | 2840 | 2040 | 2240 |
| 1,500 | 20 | C114(1)152M1X5C(2) | CK12BX152M | CKR11BX152M(2) | 2641 | 2841 | 2041 | 2241 |
| 1,800 | 10 | C114(1)182K1X5C(2) | CK12BX182K | CKR11BX182K(2) | 2642 | 2842 | 2042 | 2242 |
| 2,200 | 10 | C114(1)222K1X5C(2) | CK12BX222K | CKR11BX222K(2) | 2643 | 2843 | 2043 | 2243 |
| 2,200 | 20 | C114(1)222M1X5C(2) | CK12BX222M | CKR11BX222M(2) | 2644 | 2844 | 2044 | 2244 |
| 2,700 | 10 | C114(1)272K1X5C(2) | CK12BX272K | CKR11BX272K(2) | 2645 | 2845 | 2045 | 2245 |
| 3,300 | 10 | C114(1)332K1X5C(2) | CK12BX332K | CKR11BX332K(2) | 2646 | 2846 | 2046 | 2246 |
| 3,300 | 20 | C114(1)332M1X5C(2) | CK12BX332M | CKR11BX332M(2) | 2647 | 2847 | 2047 | 2247 |
| 3,900 | 10 | C114(1)392K1X5C(2) | CK12BX392K | CKR11BX392K(2) | 2648 | 2848 | 2048 | 2248 |
| 4,700 | 10 | C114(1)472K1X5C(2) | CK12BX472K | CKR11BX472K(2) | 2649 | 2849 | 2049 | 2249 |
| 4,700 | 20 | C114(1)472M1X5C(2) | CK12BX472M | CKR11BX472M(2) | 2650 | 2850 | 2050 | 2250 |
| 50 VOLT — C114 SIZE (MILITARY—CK12 or CKR11) | | | | | | | | |
| 5,600 | 10 | C114(1)562K5X5C(2) | CK12BX562K | CKR11BX562K(2) | 2651 | 2851 | 2051 | 2251 |
| 6,800 | 10 | C114(1)682K5X5C(2) | CK12BX682K | CKR11BX682K(2) | 2652 | 2852 | 2052 | 2252 |
| 6,800 | 20 | C114(1)682M5X5C(2) | CK12BX682M | CKR11BX682M(2) | 2653 | 2853 | 2053 | 2253 |
| 8,200 | 10 | C114(1)822K5X5C(2) | CK12BX822K | CKR11BX822K(2) | 2654 | 2854 | 2054 | 2254 |
| 10,000 | 10 | C114(1)103K5X5C(2) | CK12BX103K | CKR11BX103K(2) | 2655 | 2855 | 2055 | 2255 |
| 10,000 | 20 | C114(1)103M5X5C(2) | CK12BX103M | CKR11BX103M(2) | 2656 | 2856 | 2056 | 2256 |
| 100 VOLT — C124 SIZE (MILITARY—CK13 or CKR12) | | | | | | | | |
| 5,600 | 10 | C124(1)562K1X5C(2) | CK13BX562K | CKR12BX562K(2) | 2657 | 2857 | 2057 | 2257 |
| 6,800 | 10 | C124(1)682K1X5C(2) | CK13BX682K | CKR12BX682K(2) | 2658 | 2858 | 2058 | 2258 |
| 6,800 | 20 | C124(1)682M1X5C(2) | CK13BX682M | CKR12BX682M(2) | 2659 | 2859 | 2059 | 2259 |
| 8,200 | 10 | C124(1)822K1X5C(2) | CK13BX822K | CKR12BX822K(2) | 2660 | 2860 | 2060 | 2260 |
| 10,000 | 10 | C124(1)103K1X5C(2) | CK13BX103K | CKR12BX103K(2) | 2661 | 2861 | 2061 | 2261 |
| 10,000 | 20 | C124(1)103M1X5C(2) | CK13BX103M | CKR12BX103M(2) | 2662 | 2862 | 2062 | 2262 |
| 50 VOLT — C124 SIZE (MILITARY—CK13 or CKR12) | | | | | | | | |
| 12,000 | 10 | C124(1)123K5X5C(2) | CK13BX123K | CKR12BX123K(2) | 2663 | 2863 | 2063 | 2263 |
| 15,000 | 10 | C124(1)153K5X5C(2) | CK13BX153K | CKR12BX153K(2) | 2664 | 2864 | 2064 | 2264 |
| 15,000 | 20 | C124(1)153M5X5C(2) | CK13BX153M | CKR12BX153M(2) | 2665 | 2865 | 2065 | 2265 |
| 18,000 | 10 | C124(1)183K5X5C(2) | CK13BX183K | CKR12BX183K(2) | 2666 | 2866 | 2066 | 2266 |
| 22,000 | 10 | C124(1)223K5X5C(2) | CK13BX223K | CKR12BX223K(2) | 2667 | 2867 | 2067 | 2267 |
| 22,000 | 20 | C124(1)223M5X5C(2) | CK13BX223M | CKR12BX223M(2) | 2668 | 2868 | 2068 | 2268 |
| 27,000 | 10 | C124K273K5R5CA | CK13BR273K | | | | | |
| 33,000 | 10 | C124K333K5R5CA | CK13BR333K | | | | | |
| 33,000 | 20 | C124K333M5R5CA | CK13BR333M | | | | | |
| 39,000 | 10 | C124K393K5R5CA | CK13BR393K | | | | | |
| 47,000 | 10 | C124K473K5R5CA | CK13BR473K | | | | | |
| 47,000 | 20 | C124K473M5R5CA | CK13BR473M | | | | | |

MIL-C-11015
MIL-PRF-39014

(1) Insert proper letter for specification: K — MIL-C-11015; T — MIL-PRF-39014. (2) Failure Rate Designator: A — Not applicable (MIL-C-11015); M — 1%/1000 Hours



CERAMIC MOLDED/AXIAL — MIL-C-11015 & MIL-PRF-39014

STABLE TEMPERATURE CHARACTERISTICS—BX & BR (EIA-X7R)

RATINGS & PART NUMBER REFERENCE

| CAP. pF | TOL. % | KEMET PART NUMBER | MIL-C-11015/20 | MIL-PRF-39014/05 | MIL-PRF-39014/05 For Failure Rate Levels (2) | | | |
|--|-----------|----------------------|----------------|------------------|--|------|------|------|
| | | | | | M | P | R | S |
| 50 VOLT — C124 SIZE (MILITARY—CK13 or CKR12) (Cont'd) | | | | | | | | |
| 27,000 | 10 | C124T273K5X5C(2) | | CKR12BX273K(2) | 2669 | 2869 | 2069 | 2269 |
| 33,000 | 10 | C124T333K5X5C(2) | | CKR12BX333K(2) | 2670 | 2870 | 2070 | 2270 |
| 33,000 | 20 | C124T333M5X5C(2) | | CKR12BX333M(2) | 2671 | 2871 | 2071 | 2271 |
| 39,000 | 10 | C124T393K5X5C(2) | | CKR12BX393K(2) | 2672 | 2872 | 2072 | 2272 |
| 47,000 | 10 | C124T473K5X5C(2) | | CKR12BX473K(2) | 2673 | 2873 | 2073 | 2273 |
| 47,000 | 20 | C124T473M5X5C(2) | | CKR12BX473M(2) | 2674 | 2874 | 2074 | 2274 |
| 100 VOLT — C192 SIZE (MILITARY—CK14 or CKR14) | | | | | | | | |
| 12,000 | 10 | C192(1)123K1X5C(2) | CK14BX123K | CKR14BX123K(2) | 2675 | 2875 | 2075 | 2275 |
| 15,000 | 10 | C192(1)153K1X5C(2) | CK14BX153K | CKR14BX153K(2) | 2676 | 2876 | 2076 | 2276 |
| 15,000 | 20 | C192(1)153M1X5C(2) | CK14BX153M | CKR14BX153M(2) | 2677 | 2877 | 2077 | 2277 |
| 18,000 | 10 | C192(1)183K1X5C(2) | CK14BX183K | CKR14BX183K(2) | 2678 | 2878 | 2078 | 2278 |
| 22,000 | 10 | C192(1)223K1X5C(2) | CK14BX223K | CKR14BX223K(2) | 2679 | 2879 | 2079 | 2279 |
| 22,000 | 20 | C192(1)223M1X5C(2) | CK14BX223M | CKR14BX223M(2) | 2680 | 2880 | 2080 | 2280 |
| 27,000 | 10 | C192(1)273K1X5C(2) | CK14BX273K | CKR14BX273K(2) | 2681 | 2881 | 2081 | 2281 |
| 33,000 | 10 | C192(1)333K1X5C(2) | CK14BX333K | CKR14BX333K(2) | 2682 | 2882 | 2082 | 2282 |
| 33,000 | 20 | C192(1)333M1X5C(2) | CK14BX333M | CKR14BX333M(2) | 2683 | 2883 | 2083 | 2283 |
| 39,000 | 10 | C192(1)393K1X5C(2) | CK14BX393K | CKR14BX393K(2) | 2684 | 2884 | 2084 | 2284 |
| 47,000 | 10 | C192(1)473K1X5C(2) | CK14BX473K | CKR14BX473K(2) | 2685 | 2885 | 2085 | 2285 |
| 47,000 | 20 | C192(1)473M1X5C(2) | CK14BX473M | CKR14BX473M(2) | 2686 | 2886 | 2086 | 2286 |
| 56,000 | 10 | C192(1)563K1R5C(2) | CK14BR563K | CKR14BR563K(2) | 2693 | 2893 | 2093 | 2293 |
| 68,000 | 10 | C192(1)683K1R5C(2) | CK14BR683K | CKR14BR683K(2) | 2694 | 2894 | 2094 | 2294 |
| 68,000 | 20 | C192(1)683M1R5C(2) | CK14BR683M | CKR14BR683M(2) | 2695 | 2895 | 2095 | 2295 |
| 82,000 | 10 | C192(1)823K1R5C(2) | CK14BR823K | CKR14BR823K(2) | 2696 | 2896 | 2096 | 2296 |
| 100,000 | 10 | C192(1)104K1R5C(2) | CK14BR104K | CKR14BR104K(2) | 2697 | 2897 | 2097 | 2297 |
| 100,000 | 20 | C192(1)104M1R5C(2) | CK14BR104M | CKR14BR104M(2) | 2698 | 2898 | 2098 | 2298 |
| 50 VOLT — C192 SIZE (MILITARY—CK14 or CKR14) | | | | | | | | |
| 56,000 | 10 | C192T563K5X5C(2) | | CKR14BX563K(2) | 2687 | 2887 | 2087 | 2287 |
| 68,000 | 10 | C192T683K5X5C(2) | | CKR14BX683K(2) | 2688 | 2888 | 2088 | 2288 |
| 68,000 | 20 | C192T683M5X5C(2) | | CKR14BX683M(2) | 2689 | 2889 | 2089 | 2289 |
| 82,000 | 10 | C192T823K5X5C(2) | | CKR14BX823K(2) | 2690 | 2890 | 2090 | 2290 |
| 100,000 | 10 | C192T104K5X5C(2) | | CKR14BX104K(2) | 2691 | 2891 | 2091 | 2291 |
| 100,000 | 20 | C192T104M5X5C(2) | | CKR14BX104M(2) | 2692 | 2892 | 2092 | 2292 |
| 120,000 | 10 | C192(1)124K5R5C(2) | CK14BR124K | CKR14BR124K(2) | 2699 | 2899 | 2099 | 2299 |
| 150,000 | 10 | C192(1)154K5R5C(2) | CK14BR154K | CKR14BR154K(2) | 2700 | 2900 | 2100 | 2300 |
| 150,000 | 20 | C192(1)154M5R5C(2) | CK14BR154M | CKR14BR154M(2) | 2701 | 2901 | 2101 | 2301 |
| 180,000 | 10 | C192(1)184K5R5C(2) | CK14BR184K | CKR14BR184K(2) | 2702 | 2902 | 2102 | 2302 |
| 220,000 | 10 | C192(1)224K5R5C(2) | CK14BR224K | CKR14BR224K(2) | 2703 | 2903 | 2103 | 2303 |
| 220,000 | 20 | C192(1)224M5R5C(2) | CK14BR224M | CKR14BR224M(2) | 2704 | 2904 | 2104 | 2304 |
| 270,000 | 10 | C192(1)274K5R5C(2) | CK14BR274K | CKR14BR274K(2) | 2705 | 2905 | 2105 | 2305 |
| 100 VOLT — C202 SIZE (MILITARY—CK15 or CKR15) | | | | | | | | |
| 56,000 | 10 | C202T563K1X5C(2) | | CKR15BX563K(2) | 2706 | 2906 | 2106 | 2306 |
| 68,000 | 10 | C202T683K1X5C(2) | | CKR15BX683K(2) | 2707 | 2907 | 2107 | 2307 |
| 68,000 | 20 | C202T683M1X5C(2) | | CKR15BX683M(2) | 2708 | 2908 | 2108 | 2308 |
| 82,000 | 10 | C202T823K1X5C(2) | | CKR15BX823K(2) | 2709 | 2909 | 2109 | 2309 |
| 100,000 | 10 | C202(1)104K1X5C(2) | CK15BX104K | CKR15BX104K(2) | 2710 | 2910 | 2110 | 2310 |
| 100,000 | 20 | C202(1)104M1X5C(2) | CK15BX104M | CKR15BX104M(2) | 2711 | 2911 | 2111 | 2311 |
| 120,000 | 10 | C202(1)124K1R5C(2) | CK15BR124K | CKR15BR124K(2) | 2712 | 2912 | 2112 | 2312 |
| 150,000 | 10 | C202(1)154K1R5C(2) | CK15BR154K | CKR15BR154K(2) | 2713 | 2913 | 2113 | 2313 |
| 150,000 | 20 | C202(1)154M1R5C(2) | CK15BR154M | CKR15BR154M(2) | 2714 | 2914 | 2114 | 2314 |
| 180,000 | 10 | C202(1)184K1R5C(2) | CK15BR184K | CKR15BR184K(2) | 2715 | 2915 | 2115 | 2315 |
| 220,000 | 10 | C202(1)224K1R5C(2) | CK15BR224K | CKR15BR224K(2) | 2716 | 2916 | 2116 | 2316 |
| 220,000 | 20 | C202(1)224M1R5C(2) | CK15BR224M | CKR15BR224M(2) | 2717 | 2917 | 2117 | 2317 |
| 270,000 | 10 | C202(1)274K1R5C(2) | CK15BR274K | CKR15BR274K(2) | 2718 | 2918 | 2118 | 2318 |
| 330,000 | 10 | C202(1)334K1R5C(2) | CK15BR334K | CKR15BR334K(2) | 2719 | 2919 | 2119 | 2319 |
| 330,000 | 20 | C202(1)334M1R5C(2) | CK15BR334M | CKR15BR334M(2) | 2720 | 2920 | 2120 | 2320 |
| 50 VOLT — C202 SIZE (MILITARY—CK15 or CKR15) | | | | | | | | |
| 470,000 | 10 | C202(1)474K5R5C(2) | CK15BR474K | CKR15BR474K(2) | 2721 | 2921 | 2121 | 2321 |
| 470,000 | 20 | C202(1)474M5R5C(2) | CK15BR474M | CKR15BR474M(2) | 2722 | 2922 | 2122 | 2322 |
| 680,000 | 10 | C202T684K5R5C(2) | | CKR15BR684K(2) | 2723 | 2923 | 2123 | 2323 |
| 680,000 | 20 | C202T684M5R5C(2) | | CKR15BR684M(2) | 2724 | 2924 | 2124 | 2324 |
| 1,000,000 | 10 | C202(1)105K5R5C(2) | CK15BR105K | CKR15BR105K(2) | 2725 | 2925 | 2125 | 2325 |
| 1,000,000 | 20 | C202(1)105M5R5C(2) | CK15BR105M | CKR15BR105M(2) | 2726 | 2926 | 2126 | 2326 |
| 100 VOLT — C222 SIZE (MILITARY—CK16 or CKR16) | | | | | | | | |
| 470,000 | 10 | C222(1)474K1R5C(2) | CK16BR474K | CKR16BR474K(2) | 2727 | 2927 | 2127 | 2327 |
| 470,000 | 20 | C222(1)474M1R5C(2) | CK16BR474M | CKR16BR474M(2) | 2728 | 2928 | 2128 | 2328 |
| 680,000 | 10 | C222T684K1R5C(2) | | CKR16BR684K(2) | 2729 | 2929 | 2129 | 2329 |
| 680,000 | 20 | C222T684M1R5C(2) | | CKR16BR684M(2) | 2730 | 2930 | 2130 | 2330 |
| 1,000,000 | 10 | C222(1)105K1R5C(2) | CK16BR105K | CKR16BR105K(2) | 2731 | 2931 | 2131 | 2331 |
| 1,000,000 | 20 | C222(1)105M1R5C(2) | CK16BR105M | CKR16BR105M(2) | 2732 | 2932 | 2132 | 2332 |
| 50 VOLT — C222 SIZE (MILITARY—CK16 or CKR16) | | | | | | | | |
| 2,200,000 | 10 | C222(1)225K5R5C(2) | CK16BR225K | CKR16BR225K(2) | 2733 | 2933 | 2133 | 2333 |
| 2,200,000 | 20 | C222(1)225M5R5C(2) | CK16BR225M | CKR16BR225M(2) | 2734 | 2934 | 2134 | 2334 |
| 3,300,000 | 10 | C222(1)335K5R5C(2) | CK16BR335M | CKR16BR335K(2) | 2735 | 2935 | 2135 | 2335 |
| 3,300,000 | 20 | C222(1)335M5R5C(2) | CK16BR335M | CKR16BR335M(2) | 2736 | 2936 | 2136 | 2336 |

(1) Insert proper letter for specification: K — MIL-C-11015; T — MIL-PRF-39014 (2) Failure Rate Designator: A — Not applicable (MIL-C-11015); M — 1%/1000 Hours,

CERAMIC MOLDED/RADIAL — MIL-C-11015 & MIL-PRF-39014

STABLE TEMPERATURE CHARACTERISTICS—BX & BR (EIA-X7R)



RATINGS & PART NUMBER REFERENCE

| CAP. pF | TOL. % | KEMET PART NUMBER | MIL-C-11015/18 | MIL-PRF-39014/01 | MIL-PRF-39014/01 For Failure Rate Levels (2) | | | |
|---|-----------|----------------------|----------------|-------------------|--|---------|---------|---------|
| | | | | | M | P | R | S |
| 200 VOLT — C052/C056 SIZE (MILITARY—CK05 or CKR05) | | | | | | | | |
| 10 | 10 | C05(4)(1)100K2X5C(2) | CK05BX100K | CKR05BX100K(2)(3) | 1201(3) | 1241(3) | 1281(3) | 1321(3) |
| 10 | 20 | C05(4)(1)100M2X5C(2) | CK05BX100M | CKR05BX100M(2)(3) | 1202(3) | 1242(3) | 1282(3) | 1322(3) |
| 12 | 10 | C05(4)(1)120K2X5C(2) | CK05BX120K | CKR05BX120K(2)(3) | 1203(3) | 1243(3) | 1283(3) | 1323(3) |
| 15 | 10 | C05(4)(1)150K2X5C(2) | CK05BX150K | CKR05BX150K(2)(3) | 1204(3) | 1244(3) | 1284(3) | 1324(3) |
| 15 | 20 | C05(4)(1)150M2X5C(2) | CK05BX150M | CKR05BX150M(2)(3) | 1205(3) | 1245(3) | 1285(3) | 1325(3) |
| 18 | 10 | C05(4)(1)180K2X5C(2) | CK05BX180K | CKR05BX180K(2)(3) | 1206(3) | 1246(3) | 1286(3) | 1326(3) |
| 22 | 10 | C05(4)(1)220K2X5C(2) | CK05BX220K | CKR05BX220K(2)(3) | 1207(3) | 1247(3) | 1287(3) | 1327(3) |
| 22 | 20 | C05(4)(1)220M2X5C(2) | CK05BX220M | CKR05BX220M(2)(3) | 1208(3) | 1248(3) | 1288(3) | 1328(3) |
| 27 | 10 | C05(4)(1)270K2X5C(2) | CK05BX270K | CKR05BX270K(2)(3) | 1209(3) | 1249(3) | 1289(3) | 1329(3) |
| 33 | 10 | C05(4)(1)330K2X5C(2) | CK05BX330K | CKR05BX330K(2)(3) | 1210(3) | 1250(3) | 1290(3) | 1330(3) |
| 33 | 20 | C05(4)(1)330M2X5C(2) | CK05BX330M | CKR05BX330M(2)(3) | 1211(3) | 1251(3) | 1291(3) | 1331(3) |
| 39 | 10 | C05(4)(1)390K2X5C(2) | CK05BX390K | CKR05BX390K(2)(3) | 1212(3) | 1252(3) | 1292(3) | 1332(3) |
| 47 | 10 | C05(4)(1)470K2X5C(2) | CK05BX470K | CKR05BX470K(2)(3) | 1213(3) | 1253(3) | 1293(3) | 1333(3) |
| 47 | 20 | C05(4)(1)470M2X5C(2) | CK05BX470M | CKR05BX470M(2)(3) | 1214(3) | 1254(3) | 1294(3) | 1334(3) |
| 56 | 10 | C05(4)(1)560K2X5C(2) | CK05BX560K | CKR05BX560K(2)(3) | 1215(3) | 1255(3) | 1295(3) | 1335(3) |
| 68 | 10 | C05(4)(1)680K2X5C(2) | CK05BX680K | CKR05BX680K(2)(3) | 1216(3) | 1256(3) | 1296(3) | 1336(3) |
| 68 | 20 | C05(4)(1)680M2X5C(2) | CK05BX680M | CKR05BX680M(2)(3) | 1217(3) | 1257(3) | 1297(3) | 1337(3) |
| 82 | 10 | C05(4)(1)820K2X5C(2) | CK05BX820K | CKR05BX820K(2)(3) | 1218(3) | 1258(3) | 1298(3) | 1338(3) |
| 100 | 10 | C05(4)(1)101K2X5C(2) | CK05BX101K | CKR05BX101K(2)(3) | 1219(3) | 1259(3) | 1299(3) | 1339(3) |
| 100 | 20 | C05(4)(1)101M2X5C(2) | CK05BX101M | CKR05BX101M(2)(3) | 1220(3) | 1260(3) | 1300(3) | 1340(3) |
| 120 | 10 | C05(4)(1)121K2X5C(2) | CK05BX121K | CKR05BX121K(2)(3) | 1221(3) | 1261(3) | 1301(3) | 1341(3) |
| 150 | 10 | C05(4)(1)151K2X5C(2) | CK05BX151K | CKR05BX151K(2)(3) | 1222(3) | 1262(3) | 1302(3) | 1342(3) |
| 150 | 20 | C05(4)(1)151M2X5C(2) | CK05BX151M | CKR05BX151M(2)(3) | 1223(3) | 1263(3) | 1303(3) | 1343(3) |
| 180 | 10 | C05(4)(1)181K2X5C(2) | CK05BX181K | CKR05BX181K(2)(3) | 1224(3) | 1264(3) | 1304(3) | 1344(3) |
| 220 | 10 | C05(4)(1)221K2X5C(2) | CK05BX221K | CKR05BX221K(2)(3) | 1225(3) | 1265(3) | 1305(3) | 1345(3) |
| 220 | 20 | C05(4)(1)221M2X5C(2) | CK05BX221M | CKR05BX221M(2)(3) | 1226(3) | 1266(3) | 1306(3) | 1346(3) |
| 270 | 10 | C05(4)(1)271K2X5C(2) | CK05BX271K | CKR05BX271K(2)(3) | 1227(3) | 1267(3) | 1307(3) | 1347(3) |
| 330 | 10 | C05(4)(1)331K2X5C(2) | CK05BX331K | CKR05BX331K(2)(3) | 1228(3) | 1268(3) | 1308(3) | 1348(3) |
| 330 | 20 | C05(4)(1)331M2X5C(2) | CK05BX331M | CKR05BX331M(2)(3) | 1229(3) | 1269(3) | 1309(3) | 1349(3) |
| 390 | 10 | C05(4)(1)391K2X5C(2) | CK05BX391K | CKR05BX391K(2)(3) | 1230(3) | 1270(3) | 1310(3) | 1350(3) |
| 470 | 10 | C05(4)(1)471K2X5C(2) | CK05BX471K | CKR05BX471K(2)(3) | 1231(3) | 1271(3) | 1311(3) | 1351(3) |
| 470 | 20 | C05(4)(1)471M2X5C(2) | CK05BX471M | CKR05BX471M(2)(3) | 1232(3) | 1272(3) | 1312(3) | 1352(3) |
| 560 | 10 | C05(4)(1)561K2X5C(2) | CK05BX561K | CKR05BX561K(2)(3) | 1233(3) | 1273(3) | 1313(3) | 1353(3) |
| 680 | 10 | C05(4)(1)681K2X5C(2) | CK05BX681K | CKR05BX681K(2)(3) | 1234(3) | 1274(3) | 1314(3) | 1354(3) |
| 680 | 20 | C05(4)(1)681M2X5C(2) | CK05BX681M | CKR05BX681M(2)(3) | 1235(3) | 1275(3) | 1315(3) | 1355(3) |
| 820 | 10 | C05(4)(1)821K2X5C(2) | CK05BX821K | CKR05BX821K(2)(3) | 1236(3) | 1276(3) | 1316(3) | 1356(3) |
| 1,000 | 10 | C05(4)(1)102K2X5C(2) | CK05BX102K | CKR05BX102K(2)(3) | 1237(3) | 1277(3) | 1317(3) | 1357(3) |
| 1,000 | 20 | C05(4)(1)102M2X5C(2) | CK05BX102M | CKR05BX102M(2)(3) | 1238(3) | 1278(3) | 1318(3) | 1358(3) |
| 100 VOLT — C052/C056 SIZE (MILITARY—CK05 or CKR05) | | | | | | | | |
| 1,200 | 10 | C05(4)(1)122K1X5C(2) | CK05BX122K | CKR05BX122K(2)(3) | 1239(3) | 1279(3) | 1319(3) | 1359(3) |
| 1,500 | 10 | C05(4)(1)152K1X5C(2) | CK05BX152K | CKR05BX152K(2)(3) | 1240(3) | 1280(3) | 1320(3) | 1360(3) |
| 1,500 | 20 | C05(4)(1)152M1X5C(2) | CK05BX152M | CKR05BX152M(2)(3) | 1441(3) | 1481(3) | 1521(3) | 1561(3) |
| 1,800 | 10 | C05(4)(1)182K1X5C(2) | CK05BX182K | CKR05BX182K(2)(3) | 1442(3) | 1482(3) | 1522(3) | 1562(3) |
| 2,200 | 10 | C05(4)(1)222K1X5C(2) | CK05BX222K | CKR05BX222K(2)(3) | 1443(3) | 1483(3) | 1523(3) | 1563(3) |
| 2,200 | 20 | C05(4)(1)222M1X5C(2) | CK05BX222M | CKR05BX222M(2)(3) | 1444(3) | 1484(3) | 1524(3) | 1564(3) |
| 2,700 | 10 | C05(4)(1)272K1X5C(2) | CK05BX272K | CKR05BX272K(2)(3) | 1445(3) | 1485(3) | 1525(3) | 1565(3) |
| 3,300 | 10 | C05(4)(1)332K1X5C(2) | CK05BX332K | CKR05BX332K(2)(3) | 1446(3) | 1486(3) | 1526(3) | 1566(3) |
| 3,300 | 20 | C05(4)(1)332M1X5C(2) | CK05BX332M | CKR05BX332M(2)(3) | 1447(3) | 1487(3) | 1527(3) | 1567(3) |
| 3,900 | 10 | C05(4)(1)392K1X5C(2) | CK05BX392K | CKR05BX392K(2)(3) | 1448(3) | 1488(3) | 1528(3) | 1568(3) |
| 4,700 | 10 | C05(4)(1)472K1X5C(2) | CK05BX472K | CKR05BX472K(2)(3) | 1449(3) | 1489(3) | 1529(3) | 1569(3) |
| 4,700 | 20 | C05(4)(1)472M1X5C(2) | CK05BX472M | CKR05BX472M(2)(3) | 1450(3) | 1490(3) | 1530(3) | 1570(3) |
| 5,600 | 10 | C05(4)(1)562K1X5C(2) | CK05BX562K | CKR05BX562K(2)(3) | 1451(3) | 1491(3) | 1531(3) | 1571(3) |
| 6,800 | 10 | C05(4)(1)682K1X5C(2) | CK05BX682K | CKR05BX682K(2)(3) | 1452(3) | 1492(3) | 1532(3) | 1572(3) |
| 6,800 | 20 | C05(4)(1)682M1X5C(2) | CK05BX682M | CKR05BX682M(2)(3) | 1453(3) | 1493(3) | 1533(3) | 1573(3) |
| 8,200 | 10 | C05(4)(1)822K1X5C(2) | CK05BX822K | CKR05BX822K(2)(3) | 1454(3) | 1494(3) | 1534(3) | 1574(3) |
| 10,000 | 10 | C05(4)(1)103K1X5C(2) | CK05BX103K | CKR05BX103K(2)(3) | 1455(3) | 1495(3) | 1535(3) | 1575(3) |
| 10,000 | 20 | C05(4)(1)103M1X5C(2) | CK05BX103M | CKR05BX103M(2)(3) | 1456(3) | 1496(3) | 1536(3) | 1576(3) |
| 50 VOLT — C052/C056 SIZE (MILITARY—CK05 or CKR05) | | | | | | | | |
| 12,000 | 10 | C05(4)(1)123K5X5C(2) | CK05BX123K | CKR05BX123K(2)(3) | 1457(3) | 1497(3) | 1537(3) | 1577(3) |
| 15,000 | 10 | C05(4)(1)153K5X5C(2) | CK05BX153K | CKR05BX153K(2)(3) | 1458(3) | 1498(3) | 1538(3) | 1578(3) |
| 15,000 | 20 | C05(4)(1)153M5X5C(2) | CK05BX153M | CKR05BX153M(2)(3) | 1459(3) | 1499(3) | 1539(3) | 1579(3) |
| 18,000 | 10 | C05(4)(1)183K5X5C(2) | CK05BX183K | CKR05BX183K(2)(3) | 1460(3) | 1500(3) | 1540(3) | 1580(3) |
| 22,000 | 10 | C05(4)(1)223K5X5C(2) | CK05BX223K | CKR05BX223K(2)(3) | 1461(3) | 1501(3) | 1541(3) | 1581(3) |
| 22,000 | 20 | C05(4)(1)223M5X5C(2) | CK05BX223M | CKR05BX223M(2)(3) | 1462(3) | 1502(3) | 1542(3) | 1582(3) |
| 27,000 | 10 | C05(4)(1)273K5X5C(2) | CK05BX273K | CKR05BX273K(2)(3) | 1463(3) | 1503(3) | 1543(3) | 1583(3) |
| 33,000 | 10 | C05(4)(1)333K5X5C(2) | CK05BX333K | CKR05BX333K(2)(3) | 1464(3) | 1504(3) | 1544(3) | 1584(3) |
| 33,000 | 20 | C05(4)(1)333M5X5C(2) | CK05BX333M | CKR05BX333M(2)(3) | 1465(3) | 1505(3) | 1545(3) | 1585(3) |
| 39,000 | 10 | C05(4)(1)393K5X5C(2) | CK05BX393K | CKR05BX393K(2)(3) | 1466(3) | 1506(3) | 1546(3) | 1586(3) |
| 47,000 | 10 | C05(4)(1)473K5X5C(2) | CK05BX473K | CKR05BX473K(2)(3) | 1467(3) | 1507(3) | 1547(3) | 1587(3) |
| 47,000 | 20 | C05(4)(1)473M5X5C(2) | CK05BX473M | CKR05BX473M(2)(3) | 1468(3) | 1508(3) | 1548(3) | 1588(3) |
| 56,000 | 10 | C05(4)(1)563K5X5C(2) | CK05BX563K | CKR05BX563K(2)(3) | 1469(3) | 1509(3) | 1549(3) | 1589(3) |
| 68,000 | 10 | C05(4)(1)683K5X5C(2) | CK05BX683K | CKR05BX683K(2)(3) | 1470(3) | 1510(3) | 1550(3) | 1590(3) |
| 68,000 | 20 | C05(4)(1)683M5X5C(2) | CK05BX683M | CKR05BX683M(2)(3) | 1471(3) | 1511(3) | 1551(3) | 1591(3) |
| 82,000 | 10 | C05(4)(1)823K5X5C(2) | CK05BX823K | CKR05BX823K(2)(3) | 1472(3) | 1512(3) | 1552(3) | 1592(3) |
| 100,000 | 10 | C05(4)(1)104K5X5C(2) | CK05BX104K | CKR05BX104K(2)(3) | 1473(3) | 1513(3) | 1553(3) | 1593(3) |
| 100,000 | 20 | C05(4)(1)104M5X5C(2) | CK05BX104M | CKR05BX104M(2)(3) | 1474(3) | 1514(3) | 1554(3) | 1594(3) |

MIL-C-11015
MIL-PRF-39014

(1) Insert proper letter for specification: K — MIL-C-11015; T — MIL-PRF-39014 (2) Failure Rate Designator: A — Not applicable (MIL-C-11015); M — 1%/1000 Hours, P — 1%/1000 Hours, R — .01%/1000 Hours, S — .001%/1000 Hours (MIL-PRF-39014)
(3) Insert "V" for standard design (C056). Leave blank for the flat bottom design (C052).



CERAMIC MOLDED/RADIAL — MIL-C-11015 & MIL-PRF-39014
STABLE TEMPERATURE CHARACTERISTICS—BX & BR (EIA-X7R)

RATINGS & PART NUMBER REFERENCE

| CAP. pF | TOL. % | KEMET PART NUMBER | MIL-C-11015/19 | MIL-PRF-39014/02 | MIL-PRF-39014/02 For Failure Rate Levels (2) | | | |
|---|-----------|----------------------|----------------|-------------------|--|---------|---------|---------|
| | | | | | M | P | R | S |
| 200 VOLT — C062/C066 SIZE (MILITARY—CK06 or CKR06) | | | | | | | | |
| 1,200 | 10 | C06(4)(1)122K2X5C(2) | CK06BX122K | CKR06BX122K(2)(3) | 1201(3) | 1241(3) | 1281(3) | 1321(3) |
| 1,500 | 10 | C06(4)(1)152K2X5C(2) | CK06BX152K | CKR06BX152K(2)(3) | 1202(3) | 1242(3) | 1282(3) | 1322(3) |
| 1,500 | 20 | C06(4)(1)152M2X5C(2) | CK06BX152M | CKR06BX152M(2)(3) | 1203(3) | 1243(3) | 1283(3) | 1323(3) |
| 1,800 | 10 | C06(4)(1)182K2X5C(2) | CK06BX182K | CKR06BX182K(2)(3) | 1204(3) | 1244(3) | 1284(3) | 1324(3) |
| 2,200 | 10 | C06(4)(1)222K2X5C(2) | CK06BX222K | CKR06BX222K(2)(3) | 1206(3) | 1246(3) | 1286(3) | 1326(3) |
| 2,200 | 20 | C06(4)(1)222M2X5C(2) | CK06BX222M | CKR06BX222M(2)(3) | 1207(3) | 1247(3) | 1287(3) | 1327(3) |
| 2,700 | 10 | C06(4)(1)272K2X5C(2) | CK06BX272K | CKR06BX272K(2)(3) | 1208(3) | 1248(3) | 1288(3) | 1328(3) |
| 3,300 | 10 | C06(4)(1)332K2X5C(2) | CK06BX332K | CKR06BX332K(2)(3) | 1209(3) | 1249(3) | 1289(3) | 1329(3) |
| 3,300 | 20 | C06(4)(1)332M2X5C(2) | CK06BX332M | CKR06BX332M(2)(3) | 1210(3) | 1250(3) | 1290(3) | 1330(3) |
| 3,900 | 10 | C06(4)(1)392K2X5C(2) | CK06BX392K | CKR06BX392K(2)(3) | 1211(3) | 1251(3) | 1291(3) | 1331(3) |
| 4,700 | 10 | C06(4)(1)472K2X5C(2) | CK06BX472K | CKR06BX472K(2)(3) | 1212(3) | 1252(3) | 1292(3) | 1332(3) |
| 4,700 | 20 | C06(4)(1)472M2X5C(2) | CK06BX472M | CKR06BX472M(2)(3) | 1213(3) | 1253(3) | 1293(3) | 1333(3) |
| 5,600 | 10 | C06(4)(1)562K2X5C(2) | CK06BX562K | CKR06BX562K(2)(3) | 1214(3) | 1254(3) | 1294(3) | 1334(3) |
| 6,800 | 10 | C06(4)(1)682K2X5C(2) | CK06BX682K | CKR06BX682K(2)(3) | 1215(3) | 1255(3) | 1295(3) | 1335(3) |
| 6,800 | 20 | C06(4)(1)682M2X5C(2) | CK06BX682M | CKR06BX682M(2)(3) | 1216(3) | 1256(3) | 1296(3) | 1336(3) |
| 8,200 | 10 | C06(4)(1)822K2X5C(2) | CK06BX822K | CKR06BX822K(2)(3) | 1217(3) | 1257(3) | 1297(3) | 1337(3) |
| 10,000 | 10 | C06(4)(1)103K2X5C(2) | CK06BX103K | CKR06BX103K(2)(3) | 1218(3) | 1258(3) | 1298(3) | 1338(3) |
| 10,000 | 20 | C06(4)(1)103M2X5C(2) | CK06BX103M | CKR06BX103M(2)(3) | 1219(3) | 1259(3) | 1299(3) | 1339(3) |
| 100 VOLT — C062/C066 SIZE (MILITARY—CK06 or CKR06) | | | | | | | | |
| 12,000 | 10 | C06(4)(1)123K1X5C(2) | CK06BX123K | CKR06BX123K(2)(3) | 1231(3) | 1271(3) | 1311(3) | 1351(3) |
| 15,000 | 10 | C06(4)(1)153K1X5C(2) | CK06BX153K | CKR06BX153K(2)(3) | 1220(3) | 1260(3) | 1300(3) | 1340(3) |
| 15,000 | 20 | C062K153M1X5CA | CK06BX153M | | | | | |
| 18,000 | 10 | C06(4)(1)183K1X5C(2) | CK06BX183K | CKR06BX183K(2)(3) | 1221(3) | 1261(3) | 1301(3) | 1341(3) |
| 22,000 | 10 | C06(4)(1)223K1X5C(2) | CK06BX223K | CKR06BX223K(2)(3) | 1222(3) | 1262(3) | 1302(3) | 1342(3) |
| 22,000 | 20 | C062K223M1X5CA | CK06BX223M | | | | | |
| 27,000 | 10 | C06(4)(1)273K1X5C(2) | CK06BX273K | CKR06BX273K(2)(3) | 1232(3) | 1272(3) | 1312(3) | 1352(3) |
| 33,000 | 10 | C06(4)(1)333K1X5C(2) | CK06BX333K | CKR06BX333K(2)(3) | 1223(3) | 1263(3) | 1303(3) | 1343(3) |
| 33,000 | 20 | C062K333M1X5CA | CK06BX333M | | | | | |
| 39,000 | 10 | C06(4)(1)393K1X5C(2) | CK06BX393K | CKR06BX393K(2)(3) | 1224(3) | 1264(3) | 1304(3) | 1344(3) |
| 47,000 | 10 | C06(4)(1)473K1X5C(2) | CK06BX473K | CKR06BX473K(2)(3) | 1225(3) | 1265(3) | 1305(3) | 1345(3) |
| 47,000 | 20 | C062K473M1X5CA | CK06BX473M | | | | | |
| 56,000 | 10 | C06(4)(1)563K1X5C(2) | CK06BX563K | CKR06BX563K(2)(3) | 1226(3) | 1266(3) | 1306(3) | 1346(3) |
| 68,000 | 10 | C06(4)(1)683K1X5C(2) | CK06BX683K | CKR06BX683K(2)(3) | 1227(3) | 1267(3) | 1307(3) | 1347(3) |
| 68,000 | 20 | C062K683M1X5CA | CK06BX683M | | | | | |
| 82,000 | 10 | C06(4)(1)823K1X5C(2) | CK06BX823K | CKR06BX823K(2)(3) | 1229(3) | 1269(3) | 1309(3) | 1349(3) |
| 100,000 | 10 | C06(4)(1)104K1X5C(2) | CK06BX104K | CKR06BX104K(2)(3) | 1230(3) | 1270(3) | 1310(3) | 1350(3) |
| 100,000 | 20 | C062K104M1X5CA | CK06BX104M | | | | | |
| 50 VOLT — C062/C066 SIZE (MILITARY—CK06 or CKR06) | | | | | | | | |
| 120,000 | 10 | C06(4)(1)124K5X5C(2) | CK06BX124K | CKR06BX124K(2)(3) | 1233(3) | 1273(3) | 1313(3) | 1353(3) |
| 150,000 | 10 | C06(4)(1)154K5X5C(2) | CK06BX154K | CKR06BX154K(2)(3) | 1234(3) | 1274(3) | 1314(3) | 1354(3) |
| 150,000 | 20 | C062K154M5X5CA | CK06BX154M | | | | | |
| 180,000 | 10 | C06(4)(1)184K5X5C(2) | CK06BX184K | CKR06BX184K(2)(3) | 1235(3) | 1275(3) | 1315(3) | 1355(3) |
| 220,000 | 10 | C06(4)(1)224K5X5C(2) | CK06BX224K | CKR06BX224K(2)(3) | 1236(3) | 1276(3) | 1316(3) | 1356(3) |
| 220,000 | 20 | C062K224M5X5CA | CK06BX224M | | | | | |
| 270,000 | 10 | C06(4)(1)274K5X5C(2) | CK06BX274K | CKR06BX274K(2)(3) | 1237(3) | 1277(3) | 1317(3) | 1357(3) |
| 330,000 | 10 | C06(4)(1)334K5X5C(2) | CK06BX334K | CKR06BX334K(2)(3) | 1238(3) | 1278(3) | 1318(3) | 1358(3) |
| 330,000 | 20 | C062K334M5X5CA | CK06BX334M | | | | | |
| 390,000 | 10 | C06(4)(1)394K5X5C(2) | CK06BX394K | CKR06BX394K(2)(3) | 1239(3) | 1279(3) | 1319(3) | 1359(3) |
| 470,000 | 10 | C06(4)(1)474K5X5C(2) | CK06BX474K | CKR06BX474K(2)(3) | 1240(3) | 1280(3) | 1320(3) | 1360(3) |
| 470,000 | 20 | C062K474M5X5CA | CK06BX474M | | | | | |
| 560,000 | 10 | C06(4)(1)564K5X5C(2) | CK06BX564K | CKR06BX564K(2)(3) | 1404(3) | 1408(3) | 1412(3) | 1416(3) |
| 680,000 | 10 | C06(4)(1)684K5X5C(2) | CK06BX684K | CKR06BX684K(2)(3) | 1405(3) | 1409(3) | 1413(3) | 1417(3) |
| 680,000 | 20 | C062K684M5X5CA | CK06BX684M | | | | | |
| 820,000 | 10 | C06(4)(1)824K5X5C(2) | CK06BX824K | CKR06BX824K(2)(3) | 1406(3) | 1410(3) | 1414(3) | 1418(3) |
| 1,000,000 | 10 | C06(4)(1)105K5X5C(2) | CK06BX105K | CKR06BX105K(2)(3) | 1407(3) | 1411(3) | 1415(3) | 1419(3) |
| 1,000,000 | 20 | C062K105M5X5CA | CK06BX105M | | | | | |

(1) Insert proper letter for specification: K — MIL-C-11015; T — MIL-PRF-39014.
(2) Failure Rate Designator: A — Not applicable (MIL-C-11015); M — 1%/1000 Hours, P — .1%/1000 Hours, R — .01%/1000 Hours, S — .001%/1000 Hours (MIL-PRF-39014)
(3) Add "V" for stand-off design (C066). Leave blank for the flat bottom design (C062).
(4) Insert "2" for standard design (Style C062). Insert "6" for stand-off design (Style C066). Note: Stand-offs are available only with the CKR, not the CK.

Ceramic Axial
Lead Tape and Reel Packaging

KEMET offers standard reeling of Molded and Conformally Coated Axial Leaded Ceramic Capacitors for automatic insertion or lead forming machines per EIA specification RS-296. KEMET'S internal specification four-digit suffix, 7200, is placed at the end of the part number to designate tape and reel packaging, ie: C410C104Z5U5CA7200.

Paper (50 lb.) test minimum is inserted between the layers of capacitors wound on reels for component pitch $\leq 0.400"$. Capacitor lead length may extend only a maximum of $.0625"$ (1.59mm) beyond the tapes' edges. Capacitors are centered in a row between the two tapes and will deviate only ± 0.031 (0.79mm) from the row center. A minimum of 36" (91.5 cm) leader tape is provided at each end of the reel capacitors. Universal splicing clips are used to connect the tape. Standard reel quantities are shown on page 41.

Figure 1

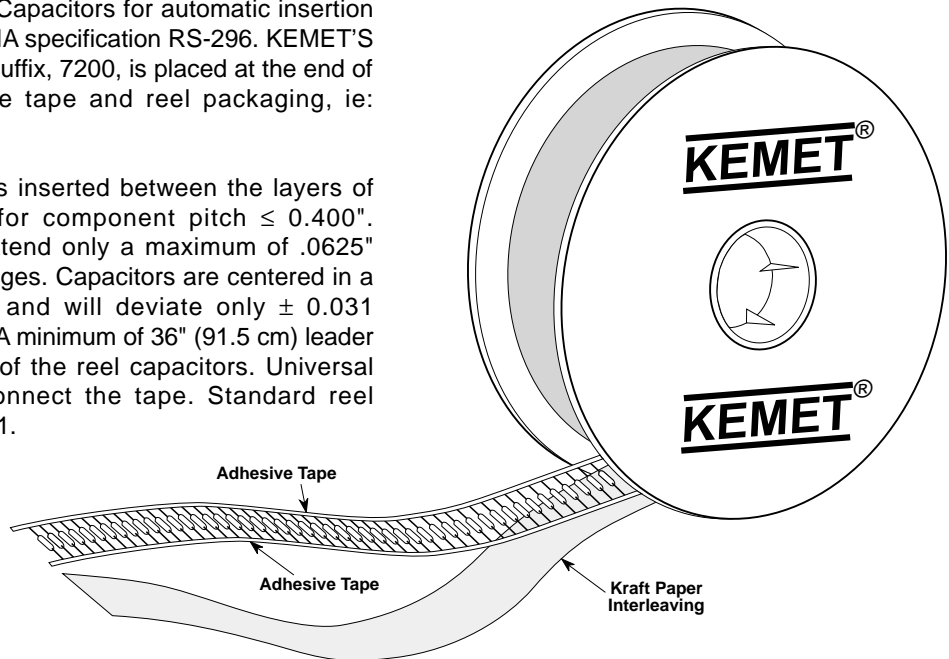


Figure 2

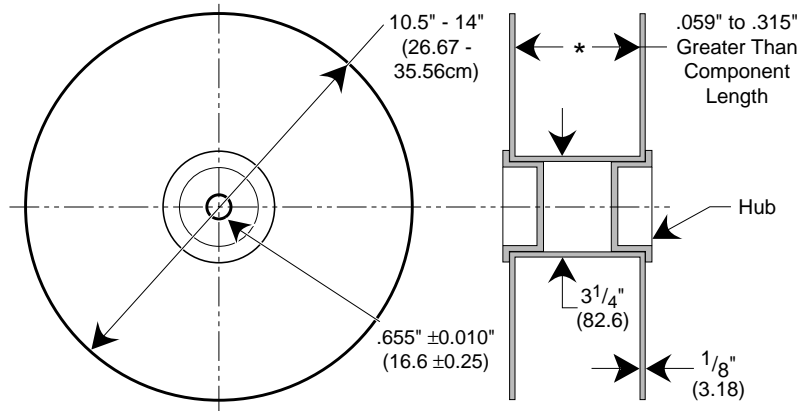


Figure 3

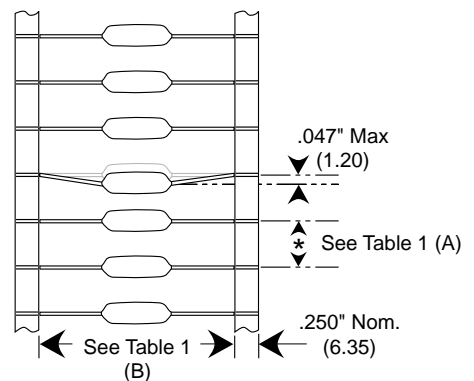


Table 1 Dimensions in Inches & (Millimeters)

| Component Body Diameter | Component Pitch "A" | Inside Tape Spacing "B" $\pm 1.5\text{mm}$ (0.059") | |
|--|-------------------------------------|---|---------------|
| | | I | III* |
| 0" (0mm) to 0.197" (5mm) 0.197" (5.01mm) to 0.394" (10mm) | 0.197" or (5mm) 0.394" or (10mm) | 2.062" (52.4mm) | 2.874" (73mm) |

* Not Available for Conformally Coated Parts.

Ceramic Radial Lead Tape and Reel Packaging

KEMET offers standard reeling of Molded and Conformally Coated Radial Leaded Ceramic Capacitors for automatic insertion per EIA specification RS-468. Parts are taped to a tagboard carrier strip, and wound on a reel as shown in Figure 1. Kraft paper interleaving is inserted between the layers of capacitors on the reel. Ammopack is also available, with the same lead tape configuration and package quantities.

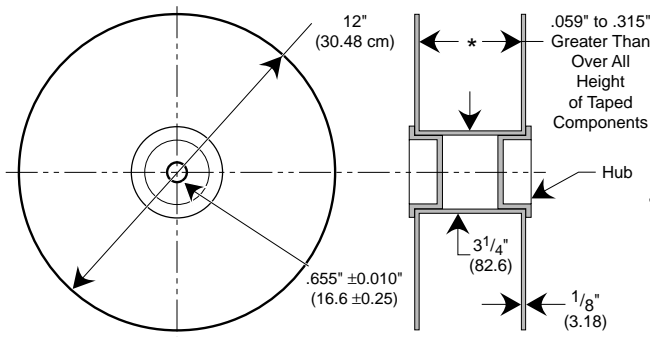


Figure 3: Standard Reel

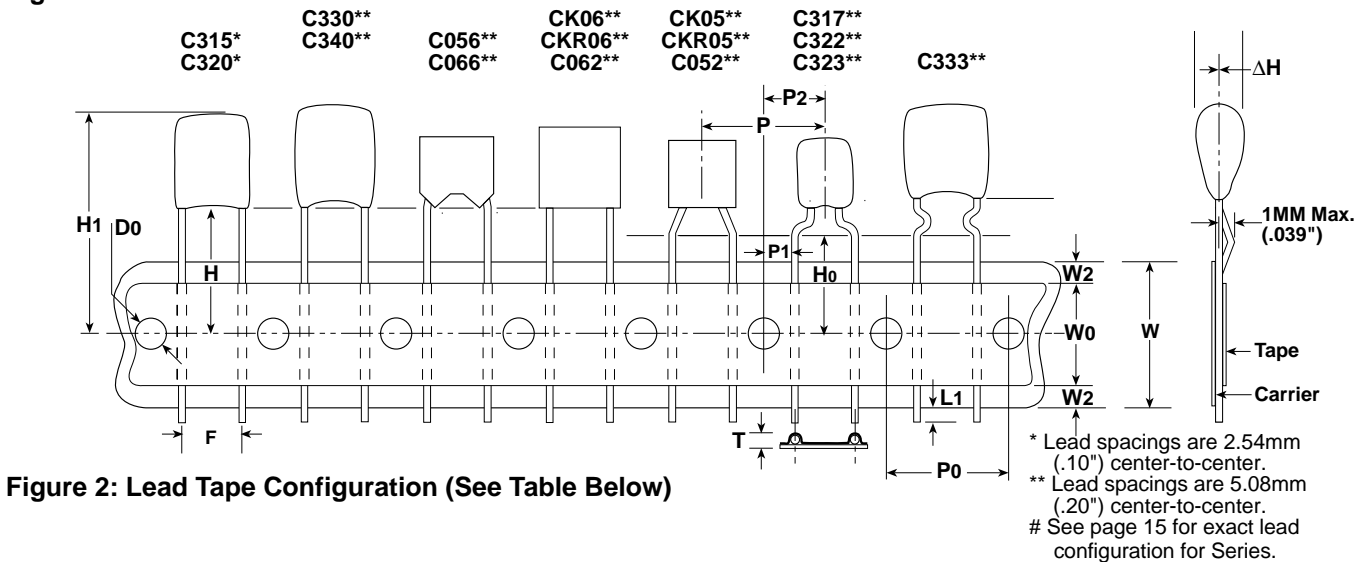
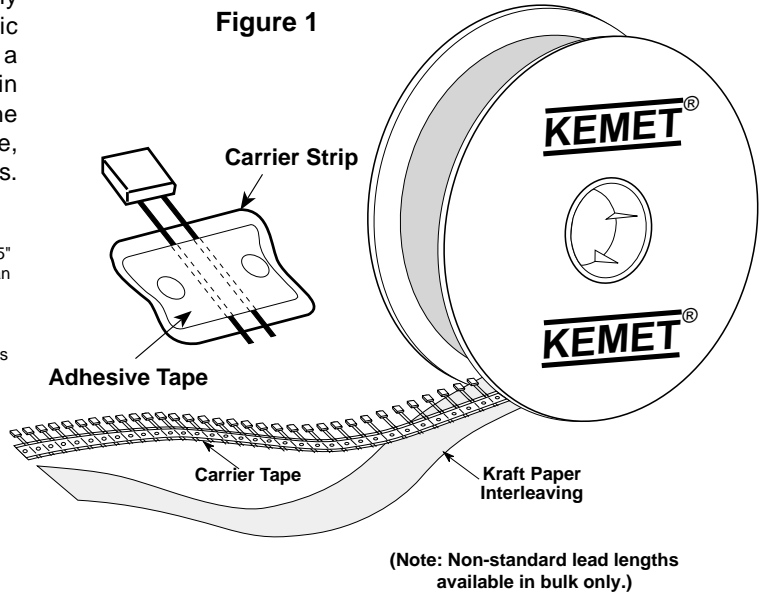


Figure 2: Lead Tape Configuration (See Table Below)

Ceramic Radial Tape and Reel Dimensions in Millimeters & (Inches)

| Dimension | Symbol | Nominal mm (inch) | Tolerance mm (inch) | Dimension | Symbol | Nominal mm (inch) | Tolerance mm (inch) |
|--|--------|--------------------------------------|----------------------------------|--|--------|--------------------------------------|----------------------------------|
| Sprocket Hole Diameter | Do | 4.0 (.157) | ± 0.2 (.008) | Height to Seating Plane (formed leads) (2) | H0 | 7301 7303 16.0 (.630) 18.0 (.709) | 7301 7303 ±0.5 (.020) Minimum |
| Sprocket Hole Pitch | P0 | 12.7 (.500) | ± 0.3 (.012) | Component Alignment | Δh | 4.0 (.157) | ±0.2 (.008) |
| Component Pitch | P | 12.7 (.500) | ± 0.3 (.012) | Lead Protrusion | L1 | 1.0 (.039) | Maximum |
| Lead Spacing (1) | F | 5.08 (.20) 2.54 (.10) | +0.6 -0.2 (+0.024 -.008) | Composite Tape Thickness | t | 0.7 (.051) | ±0.2 (.008) |
| Sprocket Hole Center to Lead Center (1) | P1 | 3.81 (.150) 5.08 (.200) | ± 0.7 (.028) | Overall Tape and Lead Thickness | T | 1.5 (.059) | Maximum |
| Sprocket Hole Center to Component Center | P2 | 6.35 (.250) | ± 1.3 (.051) | Carrier Tape Width | W | 18.0 (.709) | +1.0 - 0.5 (+.039 -.020) |
| Height to Seating Plane (straight leads) (2) | H | 7301 7303 16.0 (.630) 18.0 (.709) | 7301 7303 ±0.5 (.020) Minimum | Hold-Down Tape Width | W0 | 5.0 (.197) | Minimum |
| Component Height Above Tape Center | H1 | 32.2 (1.27) | Maximum | Hold-Down Tape Location | W2 | 3.0 (.118) | Maximum |

(1) Measured at the egress from the carrier tape, on the component side.
 (2) Determined by a 4 digit suffix placed at the end of the part number, as follows:
 7301 = Recommended for parts with formed leads. Example: C322C104K5R5CA7301
 7303 = Recommended for parts with straight leads. Example: C320C104K5R5CA7303

CERAMIC LEADED
PACKAGING INFORMATION



| CERAMIC PACKAGING | | | | | | |
|--------------------------|-----------------------|-------------------------------|-----------------------------------|-----------------------------------|------------------------------|------------------|
| KEMET Series | Military Style | Military Specification | Standard (1) Bulk Quantity | Ammo Pack Quantity Maximum | Maximum Reel Quantity | Reel Size |
| C114C-K-G | CK12, CC75 | MIL-C-11015/ | 200/Box | | 5000 | 12" |
| C124C-K-G | CK13, CC76 | MIL-PRF-20 | 200/Box | | 5000 | 12" |
| C192C-K-G | CK14, CC77 | | 100/Box | | 3000 | 12" |
| C202C-K | CK15 | | 25/Box | | 500 | 12" |
| C222C-K | CK16 | | 10/Tray | | 300 | 12" |
| C052C-K-G | CK05, CC05 | | 100/Bag | 2000 | 2000 | 12" |
| C062C-K-G | CK06, CC06 | | 100/Bag | 1500 | 1500 | 12" |
| C114G | CCR75 | MIL-PRF-20 | 200/Box | | 5000 | 12" |
| C124G | CCR76 | | 200/Box | | 5000 | 12" |
| C192G | CCR77 | | 100/Box | | 3000 | 12" |
| C202G | CC78-CCR78 | | 25/Box | | 500 | 12" |
| C222G | CC79-CCR79 | | 10/Tray | | 300 | 12" |
| C052/56G | CCR05 | | 100/Bag | | 1700 | 12" |
| C062/66G | CCR06 | | 100/Bag | | 1500 | 12" |
| C512G | CC07-CCR07 | | Footnote (2) | | N/A | N/A |
| C522G | CC08-CCR08 | | Footnote (2) | | N/A | N/A |
| C114T | CKR11 | MIL-PRF-39014 | 200/Box | | 5000 | 12" |
| C124T | CKR12 | | 200/Box | | 5000 | 12" |
| C192T | CKR14 | | 100/Box | | 3000 | 12" |
| C202T | CKR15 | | 25/Box | | 500 | 12" |
| C222T | CKR16 | | 10/Tray | | 300 | 12" |
| C052/56T | CKR05 | | 100/Bag | | 1700 | 12" |
| C062/66T | CKR06 | | 100/Bag | | 1500 | 12" |
| C31X | | | 500/Bag | 2500 | 2500 | 12" |
| C32X | | | 500/Bag | 2500 | 2500 | 12" |
| C33X | | | 250/Bag | 1500 | 1500 | 12" |
| C340 | | | 100/Bag | 1000 | 1000 | 12" |
| C350 | | | 50/Bag | N/A | N/A | N/A |
| C410 | | | 300/Box | 4000 | 5000 | 12" |
| C412 | | | 200/Box | 4000 | 5000 | 12" |
| C420 | | | 300/Box | 4000 | 5000 | 12" |
| C430 | | | 200/Box | 2000 | 2500 | 12" |
| C440 | | | 200/Box | 2000 | 2500 | 12" |
| C512 | N/A | N/A | Footnote (2) | | N/A | N/A |
| C522 | N/A | N/A | Footnote (2) | | N/A | N/A |
| C617 | | | 500/Bag | | | |
| C622/C623 | | | 500/Bag | | | |
| C627/C628 | | | 500/Bag | | | |
| C630/C631 | | | 250/Bag | | | |
| C637/C638 | | | 250/Bag | | | |
| C640/C641 | | | 100/Bag | | | |
| C642/C643 | | | 100/Bag | | | |
| C647/C648 | | | 100/Bag | | | |
| C657/C658 | | | 50/Bag | | | |
| C667/C668 | | | 50/Bag | | | |

NOTE: (1) Standard packaging refers to number of pieces per bag, tray or vial.

(2) Quantity varies. For further details, please consult the factory.

Tape and Reel Packaging