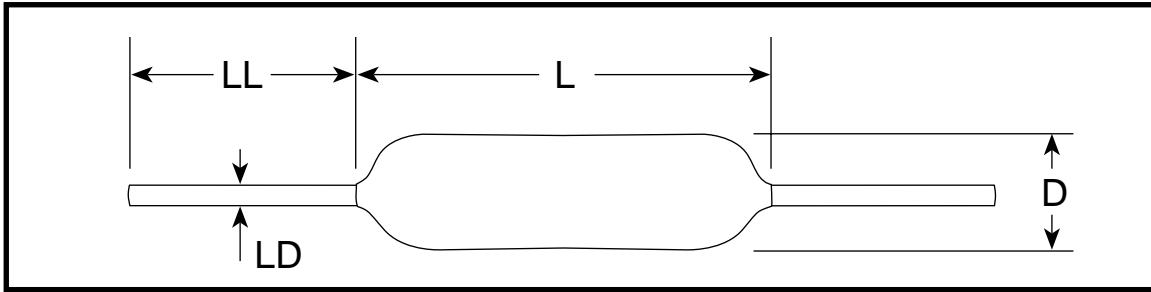


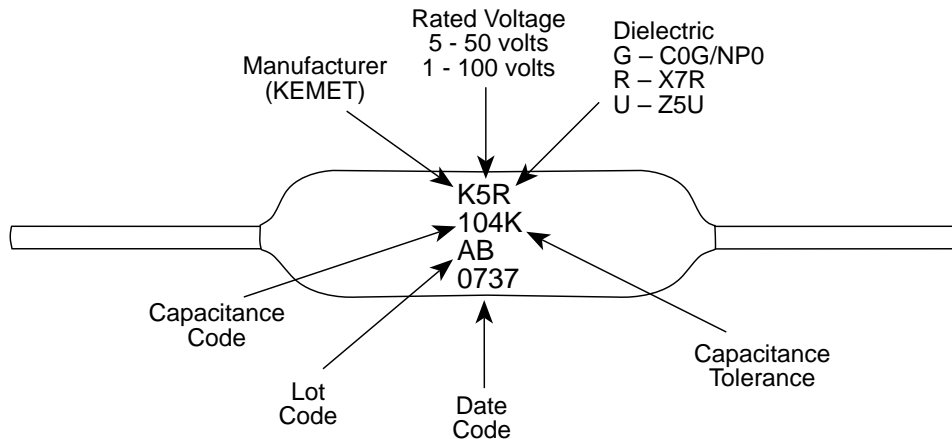
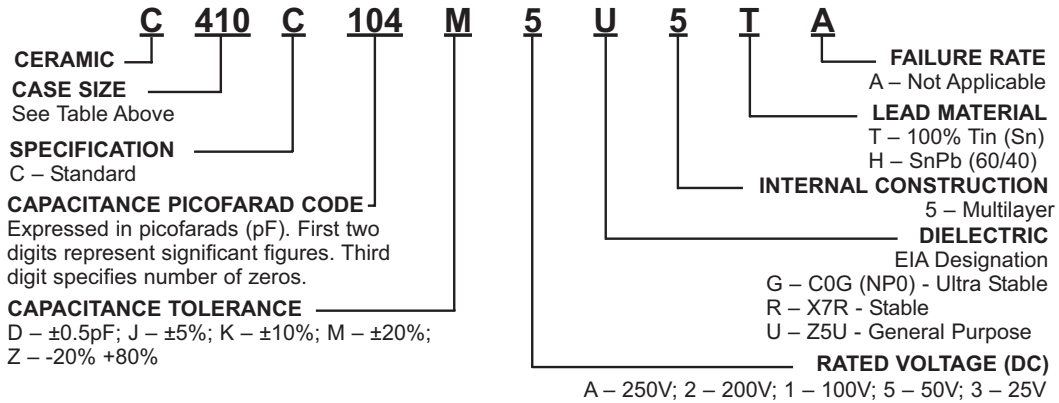
CAPACITOR OUTLINE DRAWING



MAXIMUM DIMENSIONS—INCHES (MILLIMETERS)

Style	L Max Inches(mm)	D Max Inches(mm)	LD (Nominal) +.001,-.003 (+.025,-.076) Inches(mm)	LL Min Inches(mm)
C410	.170 (4.32)	.100 (2.54)	.020 (.51)	1.0 (25.4)
C412	.170 (4.32)	.120 (3.05)	.020 (.51)	1.0 (25.4)
C420	.260 (6.60)	.100 (2.54)	.020 (.51)	1.0 (25.4)
C430	.290 (7.37)	.150 (3.81)	.020 (.51)	1.0 (25.4)
C440	.400 (10.16)	.150 (3.81)	.020 (.51)	1.0 (25.4)

ORDERING INFORMATION

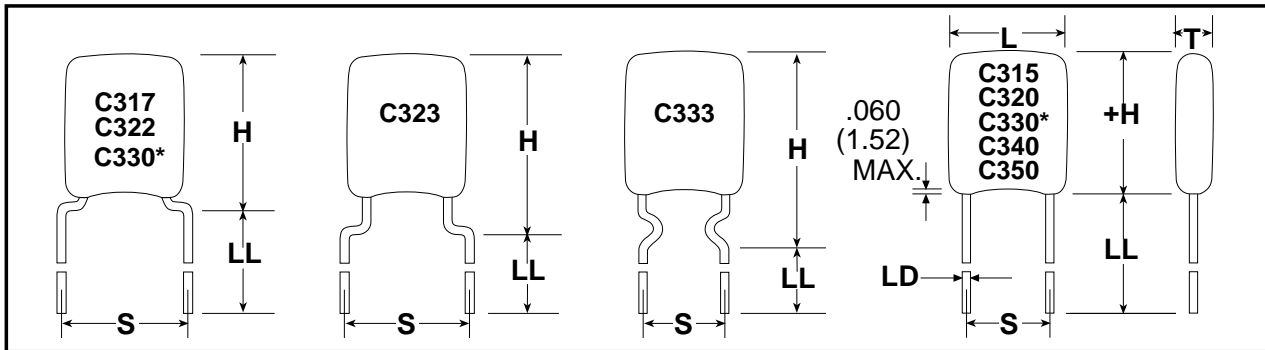


**RATINGS & PART NUMBER REFERENCE
STABLE TEMPERATURE CHARACTERISTIC – X7R**

Aximax - X7R																													
			C410					C412					C420					C430					C440						
Style			.170 (4.32)					.170 (4.32)					.260 (6.60)					.290 (7.37)					.400 (10.16)						
L max			.100 (2.54)					.120 (3.05)					.100 (2.54)					.150 (3.81)					.150 (3.81)						
LD max			.020 (.51)					.020 (.51)					.020 (.51)					.020 (.51)					.020 (.51)						
LL min			1.0 (25.4)					1.0 (25.4)					1.0 (25.4)					1.0 (25.4)					1.0 (25.4)						
CAP	Cap Code	Cap Tol	wvdc					wvdc					wvdc					wvdc					wvdc						
			25	50	100	200	250	25	50	100	200	250	25	50	100	200	250	25	50	100	200	250	25	50	100	200	250		
10	100	J, K, M																											
12	120	J, K, M																											
15	150	J, K, M																											
18	180	J, K, M																											
22	220	J, K, M																											
27	270	J, K, M																											
33	330	J, K, M																											
39	390	J, K, M																											
47	470	J, K, M																											
56	560	J, K, M																											
68	680	J, K, M																											
82	820	J, K, M																											
100	101	J, K, M																											
120	121	J, K, M																											
150	151	J, K, M																											
180	181	J, K, M																											
220	221	J, K, M																											
270	271	J, K, M																											
330	331	J, K, M																											
390	391	J, K, M																											
470	471	J, K, M																											
560	561	J, K, M																											
680	681	J, K, M																											
820	821	J, K, M																											
1000	102	J, K, M																											
1200	122	J, K, M																											
1500	152	J, K, M																											
1800	182	J, K, M																											
2200	222	J, K, M																											
2700	272	J, K, M																											
3300	332	J, K, M																											
3900	392	J, K, M																											
4700	472	J, K, M																											
5600	562	J, K, M																											
6800	682	J, K, M																											
8200	822	J, K, M																											
.010uF	103	J, K, M																											
.012	123	J, K, M																											
.015	153	J, K, M																											
.018	183	J, K, M																											
.022	223	J, K, M																											
.027	273	J, K, M																											
.033	333	J, K, M																											
.039	393	J, K, M																											
.047	473	J, K, M																											
.056	563	J, K, M																											
.068	683	J, K, M																											
.082	823	J, K, M																											
.10	104	J, K, M																											
.12	124	J, K, M																											
.15	154	J, K, M																											
.18	184	J, K, M																											
.22	224	J, K, M																											
.27	274	J, K, M																											
.33	334	J, K, M																											
.39	394	J, K, M																											
.47	474	J, K, M																											
.56	564	J, K, M																											
.68	684	J, K, M																											
.82	824	J, K, M																											
1.0	105	J, K, M																											
1.2	125	J, K, M																											
1.5	155	J, K, M																											
1.8	185	J, K, M																											
2.2	225	J, K, M																											
2.7	275	J, K, M																											
3.3	335	J, K, M																											
3.9	395	J, K, M																											
4.7	475	J, K, M																											
5.6	565	J, K, M																											
6.8	685	J, K, M																											

Newly Released Parts
Currently in catalog

STANDARD LEAD CONFIGURATION – OUTLINE DRAWINGS



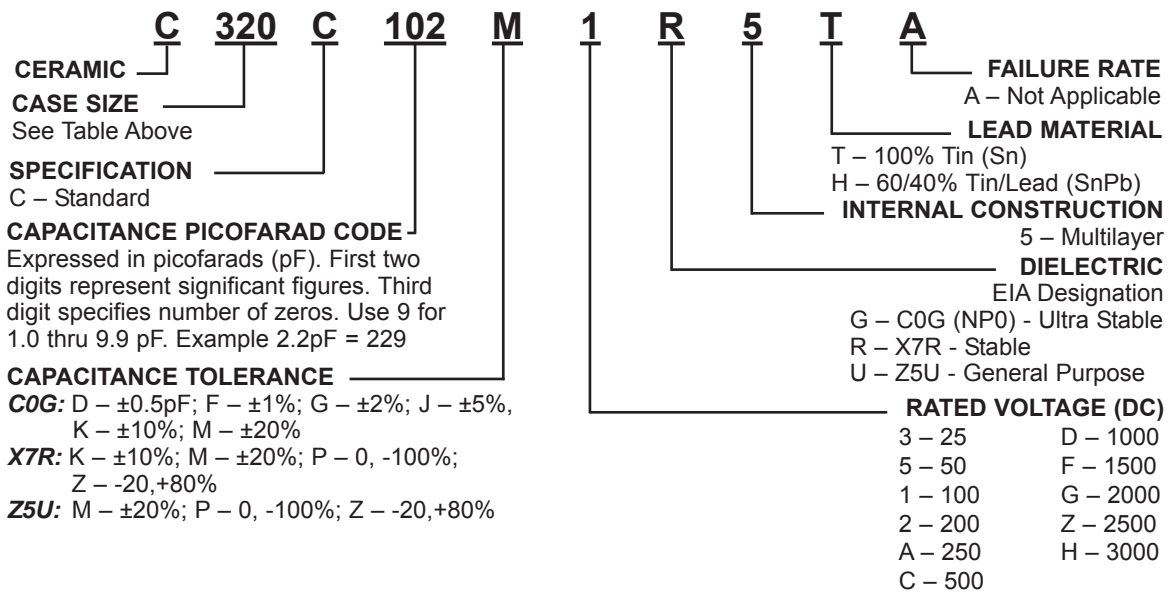
Drawings are not to scale. See table below for dimensions. + H dimension does not include meniscus.
* Lead configuration depends on capacitance value. See next page.

DIMENSIONS — INCHES MILLIMETERS

Case Size	L Max. Inches (mm)	H. Max Inches (mm)	Standard T Max. Inches (mm)	High Voltage T Max. Inches (mm)	S(1) ±.030 (.78) Inches (mm)	LD +.004(.10) -.001(.025) Inches (mm)	LL Min. Inches (mm)
C315	0.150 (3.81)	0.210 (5.33)	0.100 (2.54)	0.150 (3.81)	0.100 (2.54)	0.020 (.51)	0.276 (7.00)
C317	0.150 (3.81)	0.230 (5.84)	0.100 (2.54)	0.150 (3.81)	0.200 (5.08)	0.020 (.51)	0.276 (7.00)
C320	0.200 (5.08)	0.260 (6.60)	#0.125 (3.18)	0.200 (5.08)	0.100 (2.54)	0.020 (.51)	0.276 (7.00)
C322	0.200 (5.08)	0.260 (6.60)	0.125 (3.18)	0.200 (5.08)	0.200 (5.08)	0.020 (.51)	0.276 (7.00)
C323	0.200 (5.08)	0.320 (8.13)	0.125 (3.18)	0.200 (5.08)	0.200 (5.08)	0.020 (.51)	0.276 (7.00)
C330	0.300 (7.62)	0.360 (9.14)	0.150 (3.81)	0.250 (6.35)	0.200 (5.08)	0.020 (.51)	0.276 (7.00)
C333	0.300 (7.62)	0.390 (9.91)	0.150 (3.81)	0.250 (6.35)	0.200 (5.08)	0.020 (.51)	0.276 (7.00)
C340	0.400 (10.16)	0.460 (11.68)	0.150 (3.81)	0.270 (6.86)	0.200 (5.08)	0.020 (.51)	0.276 (7.00)
C350	0.500 (12.70)	0.560 (14.22)	0.200 (5.08)	0.270 (6.86)	0.400 (10.16)	0.025 (.64)	0.276 (7.00)

Note: 1 inch = 25.4mm.
Note (1): Measured at seating plane.
#0.160" (4.064mm) for 4.7 - 10.0µF

ORDERING INFORMATION



OPTIONAL CONFIGURATIONS BY LEAD SPACING

The preferred lead wire configurations are shown on previous page. However, additional configurations are available. All available options are shown below grouped by lead spacing.

Lead Spacing .100" ± .030	C 3 1 5 	C 3 1 6 	C 3 2 0 	C 3 2 4 	C 3 2 6 		
	C 3 1 7 	C 3 1 8 	C 3 2 2 	C 3 2 3 			
Lead Spacing .200" ± .030	C 3 2 5 	C 3 2 7 	C 3 2 8 				
	C 3 3 0 	C 3 3 3 	C 3 3 5 	C 3 3 6 	C 3 4 0 	C 3 4 6 	
Lead Spacing .250" ± .030 (Available in bulk only)	C 3 2 1 	C 3 3 1 	Lead Spacing .400" ± .030			C 3 5 0 	C 3 5 6
						C 3 5 0 	C 3 5 6

Note: Non-standard lead lengths are available in bulk only.

RATINGS & PART NUMBER REFERENCE: STABLE TEMPERATURE CHARACTERISTICS — X7R

Golden Max Catalog Parts - X7R																												
		Style:	C31X						C32X						C33X													
Cap	Cap Code	Cap Tol	WVDC						WVDC						WVDC													
			25	50	100	200	250	500	1k	25	50	100	200	250	500	1k	1.5k	2k	25	50	100	200	250	500	1k	2k	3k	
10pF	100	K,M,P,Z																										
12	120	K,M,P,Z																										
15	150	K,M,P,Z																										
18	180	K,M,P,Z																										
22	220	K,M,P,Z																										
27	270	K,M,P,Z																										
33	330	K,M,P,Z																										
39	390	K,M,P,Z																										
47	470	K,M,P,Z																										
56	560	K,M,P,Z																										
68	680	K,M,P,Z																										
82	820	K,M,P,Z																										
100	101	K,M,P,Z																										
120	121	K,M,P,Z																										
150	151	K,M,P,Z																										
180	181	K,M,P,Z																										
220	221	K,M,P,Z																										
270	271	K,M,P,Z																										
330	331	K,M,P,Z																										
390	391	K,M,P,Z																										
470	471	K,M,P,Z																										
560	561	K,M,P,Z																										
680	681	K,M,P,Z																										
820	821	K,M,P,Z																										
1000	102	K,M,P,Z																										
1200	122	K,M,P,Z																										
1500	152	K,M,P,Z																										
1800	182	K,M,P,Z																										
2200	222	K,M,P,Z																										
2700	272	K,M,P,Z																										
3300	332	K,M,P,Z																										
3900	392	K,M,P,Z																										
4700	472	K,M,P,Z																										
5600	562	K,M,P,Z																										
6800	682	K,M,P,Z																										
8200	822	K,M,P,Z																										
.010uF	103	K,M,P,Z																										
.012	123	K,M,P,Z																										
.015	153	K,M,P,Z																										
.018	183	K,M,P,Z																										
.022	223	K,M,P,Z																										
.027	273	K,M,P,Z																										
.033	333	K,M,P,Z																										
.039	393	K,M,P,Z																										
.047	473	K,M,P,Z																										
.056	563	K,M,P,Z																										
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.082	823	K,M,P,Z																										
.10	104	K,M,P,Z																										
.12	124	K,M,P,Z																										
.15	154	K,M,P,Z																										
.18	184	K,M,P,Z																										
.22	224	K,M,P,Z																										
.27	274	K,M,P,Z																										
.33	334	K,M,P,Z																										
.39	394	K,M,P,Z																										
.47	474	K,M,P,Z																										
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.68	684	K,M,P,Z																										
.82	824	K,M,P,Z																										
1.0	105	K,M,P,Z																										
1.2	125	K,M,P,Z																										
1.5	155	K,M,P,Z																										
1.8	185	K,M,P,Z																										
2.2	225	K,M,P,Z																										
2.7	275	K,M,P,Z																										
3.3	335	K,M,P,Z																										
3.9	395	K,M,P,Z																										
4.7	475	K,M,P,Z																										
5.6	565	K,M,P,Z																										
6.8	685	K,M,P,Z																										
10	106	K,M,P,Z																										

Newly Released Parts
 Currently in catalog

- (1) Thickness max = 0.160" (4.06mm)
- (2) Requires straight leads (all other C33X's require bent leads)

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 last page.

Figure 1

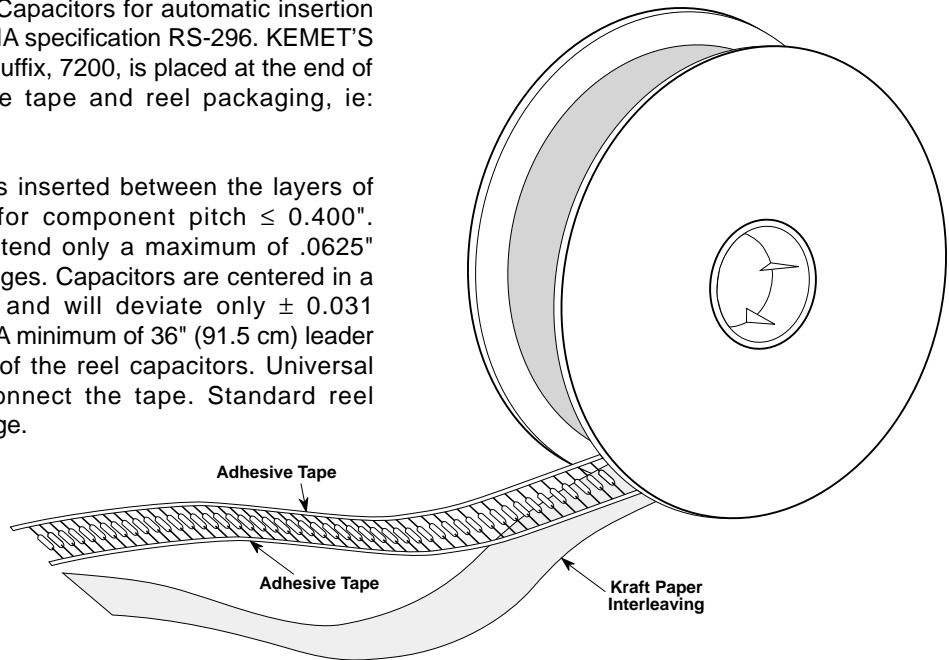


Figure 2

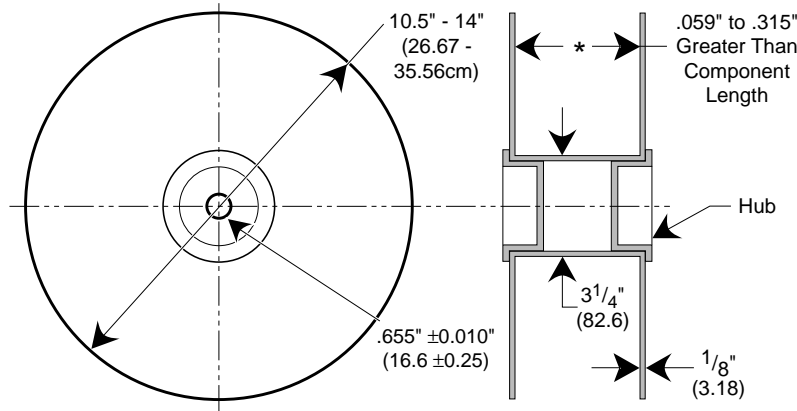


Figure 3

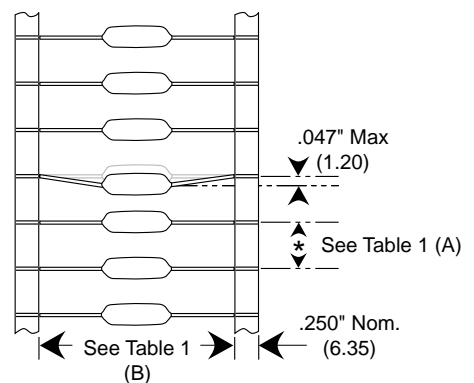


Table 1 Dimensions in Inches & (Millimeters)

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 Leded 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.

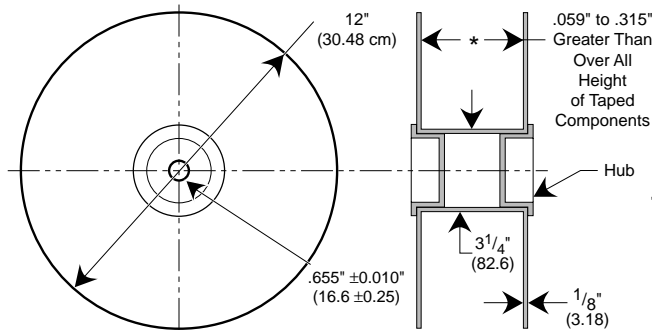


Figure 3: Standard Reel

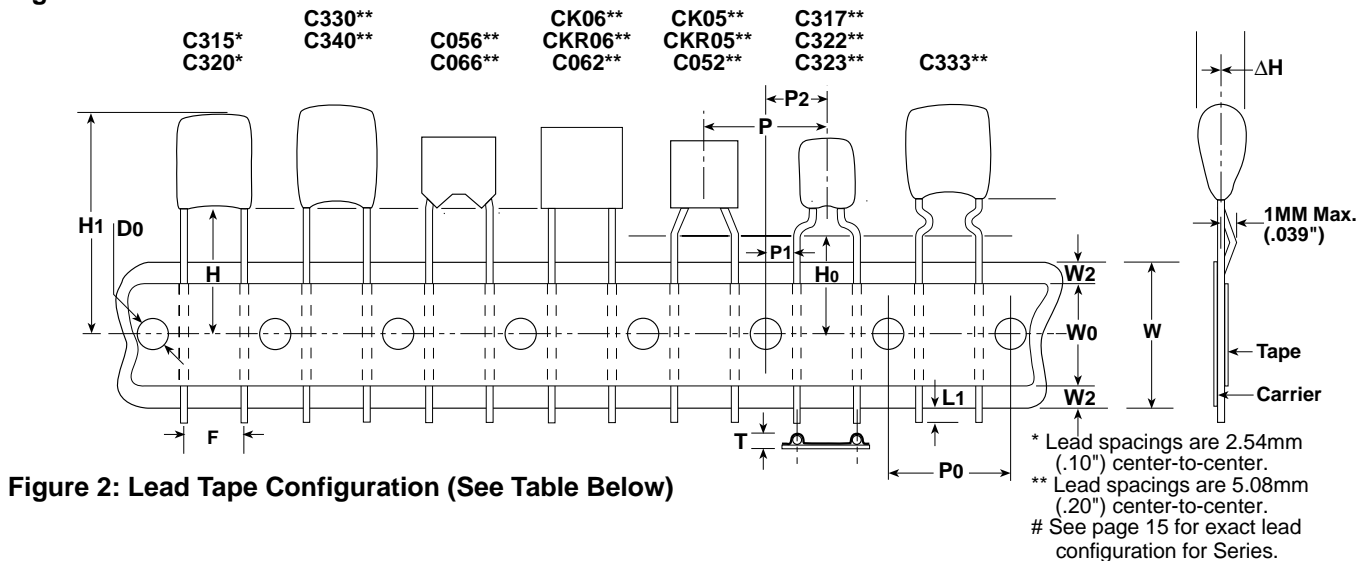
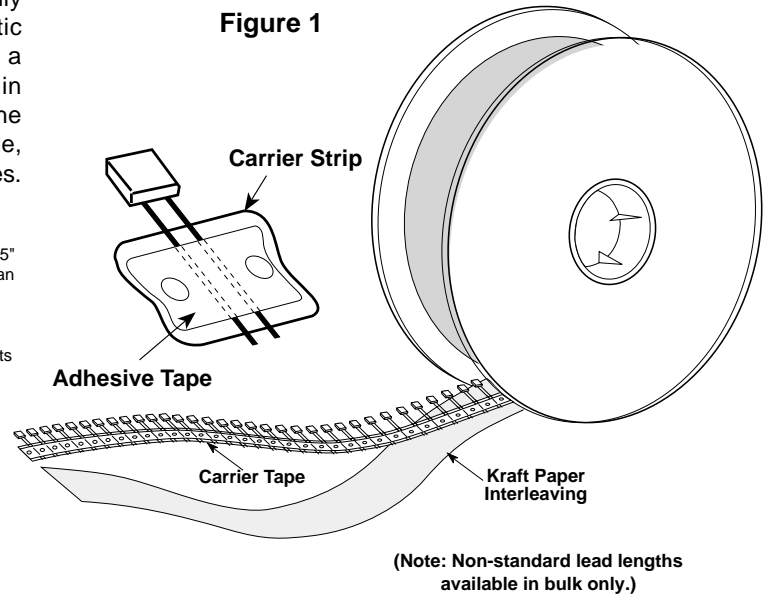


Figure 2: Lead Tape Configuration (See Table Below)

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 (+.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

AXIMAX & GOLDMAX PACKAGING

KEMET Series	Military Style	Military Specification	Standard (1) Bulk Quantity	Ammo Pack Quantity Maximum	Maximum Reel Quantity	Reel Size
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	500	12"
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"

CAPACITOR MARKINGS

