

Surface Mount Multilayer Ceramic Chip Capacitors (SMD MLCCs)
Capacitor Array, C0G Dielectric, 10 – 200 VDC
(Commercial & Automotive Grade)

Overview

KEMET's Ceramic Chip Capacitor Array in C0G dielectric is an advanced passive technology where multiple capacitor elements are integrated into one common monolithic structure. Array technology promotes reduced placement costs and increased throughput. This is achieved by alternatively placing one device rather than two or four discrete devices. Use of capacitor arrays also saves board space which translates into increased board density and more functions per board. Arrays consume only a portion of the space required for standard chips resulting in savings in inventory and pick/place machine positions.

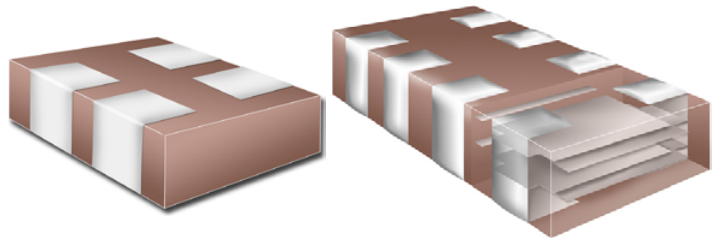
KEMET's C0G dielectric features a 125°C maximum operating temperature and is considered "stable." The Electronics

Industries Alliance (EIA) characterizes C0G dielectric as a Class I material. Components of this classification are temperature compensating and are suited for resonant circuit applications or those where Q and stability of capacitance characteristics are required. C0G exhibits no change in capacitance with respect to time and voltage and boasts a negligible change in capacitance with reference to ambient temperature. Capacitance change is limited to ± 30 ppm/°C from -55°C to +125°C.

KEMET automotive grade array capacitors meet the demanding Automotive Electronics Council's AEC-Q200 qualification requirements.

Benefits

- -55°C to +125°C operating temperature range
- Saves both circuit board and inventory space
- Reduces placement costs and increases throughput
- RoHS Compliant
- EIA 0508 (2-element) and 0612 (4-element) case sizes



Ordering Information

CA	06	4	C	104	K	4	G	A	C	TU
Ceramic Array	Case Size (L" x W") ¹	Number of Capacitors	Specification/ Series	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Dielectric	Failure Rate/ Design	Termination Finish ²	Packaging/Grade (C-Spec) ³
	05 = 0508 06 = 0612	2 = 2 4 = 4	C = Standard X = Flexible Termination	2 Significant Digits + Number of Zeros	J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$	8 = 10 V 4 = 16 V 3 = 25 V 5 = 50 V 1 = 100 V 2 = 200 V	G = C0G	A = N/A	C = 100% Matte Sn L = SnPb (5% minimum)	Blank = Bulk TU = 7" Reel Unmarked AUTO = Automotive Grade

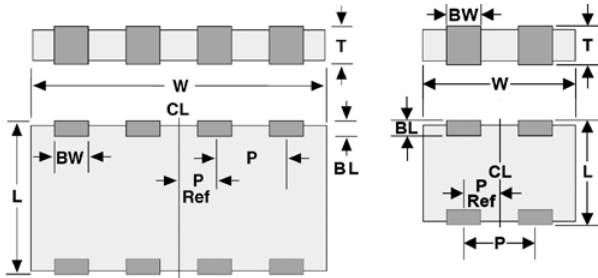
¹ All previous reference to metric case dimension "1632" has been replaced with an inch standard reference of "0612". Please reference all new designs using the "0612" nomenclature. "CA064" replaces "C1632" in the ordering code.

² Additional termination finish options may be available. Contact KEMET for details.

^{2,3} SnPb termination finish option is not available on automotive grade product.

³ Additional reeling or packaging options may be available. Contact KEMET for details.

Dimensions – Millimeters (Inches)



EIA Size Code	Metric Size Code	L Length	W Width	BW Bandwidth	BL Bandlength	T Thickness	P Pitch	P/2 Reference
0508	1220	1.30 (0.051) ±0.15 (0.006)	2.10 (0.083) ±0.15 (0.006)	0.53 (0.021) ±0.08 (0.003)	0.30 (0.012) ±0.20 (0.008)	See Table 2 for Thickness	1.00 (0.039) ±0.10 (0.004)	0.50 (0.020) ±0.10 (0.004)
0612	1632	1.60 (0.063) ±0.20 (0.008)	3.20 (0.126) ±0.20 (0.008)	0.40 (0.016) ±0.20 (0.008)	0.30 (0.012) ±0.20 (0.008)		0.80 (0.031) ±0.10 (0.004)	0.40 (0.031) ±0.05 (0.002)

Benefits cont'd

- DC voltage ratings of 10 V, 16 V, 25 V, 50 V, 100 V, and 200 V
- Capacitance offerings ranging from 10 pF to 2,200 pF
- Available capacitance tolerances of ±5%, ±10%, and ±20%
- Non-polar device, minimizing installation concerns
- 100% pure matte tin-plated termination finish allowing for excellent solderability
- SnPb termination finish option available upon request (5% minimum)
- Flexible termination option available upon request
- Commercial and Automotive (AEC-Q200) grades available

Applications

Typical applications include those that can benefit from board area savings, cost savings and overall volumetric reduction such as telecommunications, computers, handheld devices and automotive.

Qualification/Certification

Commercial Grade products are subject to internal qualification. Details regarding test methods and conditions are referenced in Table 4, Performance & Reliability.

Automotive Grade products meet or exceed the requirements outlined by the Automotive Electronics Council. Details regarding test methods and conditions are referenced in document AEC-Q200, Stress Test Qualification for Passive Components. For additional information regarding the Automotive Electronics Council and AEC-Q200, please visit their website at www.aecouncil.com.

Environmental Compliance

Pb-Free and RoHS Compliant (excluding SnPb termination finish option).



RoHS Compliant

Electrical Parameters/Characteristics

Item	Parameters/Characteristics
Operating Temperature Range	-55°C to +125°C
Capacitance Change with Reference to +25°C and 0 VDC Applied (TCC)	±30 ppm/°C
Aging Rate (Maximum % Capacitance Loss/Decade Hour)	0%
Dielectric Withstanding Voltage (DWV)	250% of rated voltage (5 ±1 seconds and charge/discharge not exceeding 50 mA)
Dissipation Factor (DF) Maximum Limit @ 25°C	0.1%
Insulation Resistance (IR) Limit @ 25°C	1,000 megohm microfarads or 100 GΩ (Rated voltage applied for 120 ±5 seconds @ 25°C)

To obtain IR limit, divide MΩ-μF value by the capacitance and compare to GΩ limit. Select the lower of the two limits.

Capacitance and dissipation factor (DF) measured under the following conditions:

1 MHz ±100 kHz and 1.0 Vrms ±0.2 V if capacitance ≤ 1,000 pF

1 kHz ±50 Hz and 1.0 Vrms ±0.2 V if capacitance > 1,000 pF

Note: When measuring capacitance it is important to ensure the set voltage level is held constant. The HP4284 and Agilent E4980 have a feature known as Automatic Level Control (ALC). The ALC feature should be switched to "ON."

Post Environmental Limits

High Temperature Life, Biased Humidity, Moisture Resistance					
Dielectric	Rated DC Voltage	Capacitance Value	Dissipation Factor (Maximum %)	Capacitance Shift	Insulation Resistance
COG	All	All	0.5	0.3% or ±0.25 pF	10% of Initial Limit

Table 1 – Capacitance Range/Selection Waterfall (0508 – 0612 Case Sizes)

Capacitance	Capacitance Code	Series			C0508 (CA052C 2-Cap Case Size)					C0612 (CA064C 4-Cap Case Size)					
		Voltage Code			8	4	3	5	1	8	4	3	5	1	2
		Voltage DC			10	16	25	50	100	10	16	25	50	100	200
		Capacitance Tolerance			Product Availability and Chip Thickness Codes See Table 2 for Chip Thickness Dimensions										
10 pF	100	J	K	M						MA	MA	MA	MA	MA	MA
12 pF	120	J	K	M						MA	MA	MA	MA	MA	MA
15 pF	150	J	K	M						MA	MA	MA	MA	MA	MA
18 pF	180	J	K	M						MA	MA	MA	MA	MA	MA
22 pF	220	J	K	M						MA	MA	MA	MA	MA	MA
27 pF	270	J	K	M						MA	MA	MA	MA	MA	MA
33 pF	330	J	K	M						MA	MA	MA	MA	MA	MA
39 pF	390	J	K	M						MA	MA	MA	MA	MA	MA
47 pF	470	J	K	M						MA	MA	MA	MA	MA	MA
56 pF	560	J	K	M						MA	MA	MA	MA	MA	MA
68 pF	680	J	K	M						MA	MA	MA	MA	MA	MA
82 pF	820	J	K	M						MA	MA	MA	MA	MA	MA
100 pF	101	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	MA
120 pF	121	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	MA
150 pF	151	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	MA
180 pF	181	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	
220 pF	221	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	
270 pF	271	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	
330 pF	331	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	
390 pF	391	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA	MA	
470 pF	471	J	K	M	PA	PA	PA	PA	PA	MA	MA	MA	MA		
560 pF	561	J	K	M	PA	PA	PA	PA	PA						
680 pF	681	J	K	M	PA	PA	PA	PA	PA						
820 pF	821	J	K	M	PA	PA	PA	PA	PA						
1,000 pF	102	J	K	M	PA	PA	PA	PA	PA						
1,100 pF	112	J	K	M	PA	PA	PA	PA	PA						
1,200 pF	122	J	K	M	PA	PA	PA	PA	PA						
1,300 pF	132	J	K	M	PA	PA	PA	PA	PA						
1,500 pF	152	J	K	M	PA	PA	PA	PA	PA						
1,600 pF	162	J	K	M	PA	PA	PA	PA	PA						
1,800 pF	182	J	K	M	PA	PA	PA	PA	PA						
2,000 pF	202	J	K	M	PA	PA	PA	PA	PA						
2,200 pF	222	J	K	M	PA	PA	PA	PA	PA						
Capacitance	Capacitance Code	Voltage DC			10	16	25	50	100	10	16	25	50	100	200
		Voltage Code			8	4	3	5	1	8	4	3	5	1	2
		Series			C0508					C0612					

KEMET reserves the right to substitute product with an improved temperature characteristic, tighter capacitance tolerance and/or higher voltage capability within the same form factor (configuration and dimensions).

These products are protected under US Patents 7,172,985 and 7,670,981, other patents pending, and any foreign counterparts.

Table 2 – Chip Thickness/Packaging Quantities

Thickness Code	Case Size	Thickness ± Range (mm)	Paper Quantity		Plastic Quantity	
			7" Reel	13" Reel	7" Reel	13" Reel
PA	0508	0.80 ± 0.10	0	0	4,000	10,000
MA	0612	0.80 ± 0.10	0	0	4,000	10,000

Package quantity based on finished chip thickness specifications.

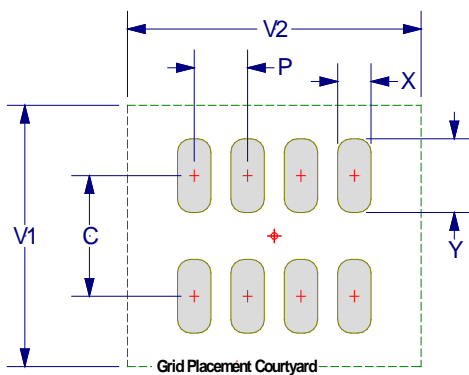
Table 3 – Chip Capacitor Array Land Pattern Design Recommendations per IPC-7351

EIA SIZE CODE	METRIC SIZE CODE	Density Level A: Maximum (Most) Land Protrusion (mm)						Density Level B: Median (Nominal) Land Protrusion (mm)						Density Level C: Minimum (Least) Land Protrusion (mm)					
		C	Y	X	P	V1	V2	C	Y	X	P	V1	V2	C	Y	X	P	V1	V2
0508/CA052	1220	1.60	1.00	0.55	1.00	3.50	3.30	1.50	0.90	0.50	1.00	2.90	2.80	1.40	0.75	0.45	1.00	2.40	2.50
0612/CA064	1632	1.80	1.10	0.50	0.80	3.90	4.40	1.80	0.95	0.50	0.80	3.30	3.90	1.70	0.85	0.40	0.80	2.80	3.60

Density Level A: For low-density product applications. Provides a wider process window for reflow solder processes.

Density Level B: For products with a moderate level of component density. Provides a robust solder attachment condition for reflow solder processes.

Density Level C: For high component density product applications. Before adapting the minimum land pattern variations the user should perform qualification testing based on the conditions outlined in IPC Standard 7351 (IPC-7351).



Soldering Process

Recommended Soldering Technique:

- Solder reflow only

Recommended Soldering Profile:

- KEMET recommends following the guidelines outlined in IPC/JEDEC J-STD-020

Table 4 – Performance & Reliability: Test Methods and Conditions

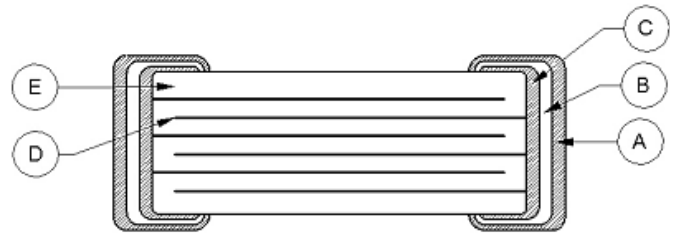
Stress	Reference	Test or Inspection Method
Terminal Strength	JIS-C-6429	Appendix 1, Note: Force of 1.8 kg for 60 seconds.
Board Flex	JIS-C-6429	Appendix 2, Note: Standard termination system – 2.0 mm (minimum) for all except 3 mm for COG. Flexible termination system – 3.0 mm (minimum).
Solderability	J-STD-002	Magnification 50 X. Conditions:
		a) Method B, 4 hours @ 155°C, dry heat @ 235°C
		b) Method B @ 215°C category 3
		c) Method D, category 3 @ 260°C
Temperature Cycling	JESD22 Method JA-104	1,000 Cycles (-55°C to +125°C). Measurement at 24 hours +/- 2 hours after test conclusion.
Biased Humidity	MIL-STD-202 Method 103	Load Humidity: 1,000 hours 85°C/85% RH and rated voltage. Add 100 K ohm resistor. Measurement at 24 hours +/- 2 hours after test conclusion.
		Low Volt Humidity: 1,000 hours 85°C/85% RH and 1.5 V. Add 100 K ohm resistor. Measurement at 24 hours +/- 2 hours after test conclusion.
Moisture Resistance	MIL-STD-202 Method 106	t = 24 hours/cycle. Steps 7a and 7b not required. Unpowered. Measurement at 24 hours +/- 2 hours after test conclusion.
Thermal Shock	MIL-STD-202 Method 107	-55°C/+125°C. Note: Number of cycles required – 300, maximum transfer time – 20 seconds, dwell time – 15 minutes. Air – Air.
High Temperature Life	MIL-STD-202 Method 108 /EIA-198	1,000 hours at 125°C (85°C for X5R, Z5U and Y5V) with 2 X rated voltage applied.
Storage Life	MIL-STD-202 Method 108	150°C, 0 VDC for 1,000 hours.
Vibration	MIL-STD-202 Method 204	5 g's for 20 min., 12 cycles each of 3 orientations. Note: Use 8" X 5" PCB 0.031" thick 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10 – 2,000 Hz
Mechanical Shock	MIL-STD-202 Method 213	Figure 1 of Method 213, Condition F.
Resistance to Solvents	MIL-STD-202 Method 215	Add aqueous wash chemical, OKEM Clean or equivalent.

Storage & Handling

Ceramic chip capacitors should be stored in normal working environments. While the chips themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature– reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 70% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulfur bearing compounds. For optimized solderability chip stock should be used promptly, preferably within 1.5 years of receipt.

Construction – Standard Termination

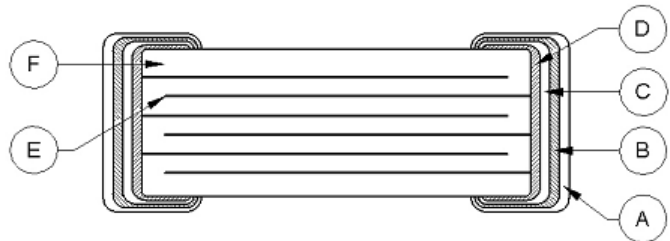
Reference	Item		Material
A	Termination System	Finish	100% Matte Sn
B		Barrier Layer	Ni
C		Base Metal	Cu
D	Inner Electrode		Ni
E	Dielectric Material		CaZrO ₃



Note: Image is exaggerated in order to clearly identify all components of construction.

Construction – Flexible Termination

Reference	Item		Material
A	Termination System	Finish	100% Matte Sn
B		Barrier Layer	Ni
C		Epoxy Layer	Ag
D		Base Metal	Cu
E	Inner Electrode		Ni
F	Dielectric Material		CaZrO ₃



Note: Image is exaggerated in order to clearly identify all components of construction.

Capacitor Marking (Optional):

Laser marking option is not available on:

- COG, Ultra Stable X8R and Y5V dielectric devices
- EIA 0402 case size devices
- EIA 0603 case size devices with Flexible Termination option.
- KPS Commercial and Automotive grade stacked devices.

These capacitors are supplied unmarked only.

Tape & Reel Packaging Information

KEMET offers multilayer ceramic chip capacitors packaged in 8, 12 and 16 mm tape on 7" and 13" reels in accordance with EIA Standard 481. This packaging system is compatible with all tape-fed automatic pick and place systems. See Table 2 for details on reeling quantities for commercial chips.

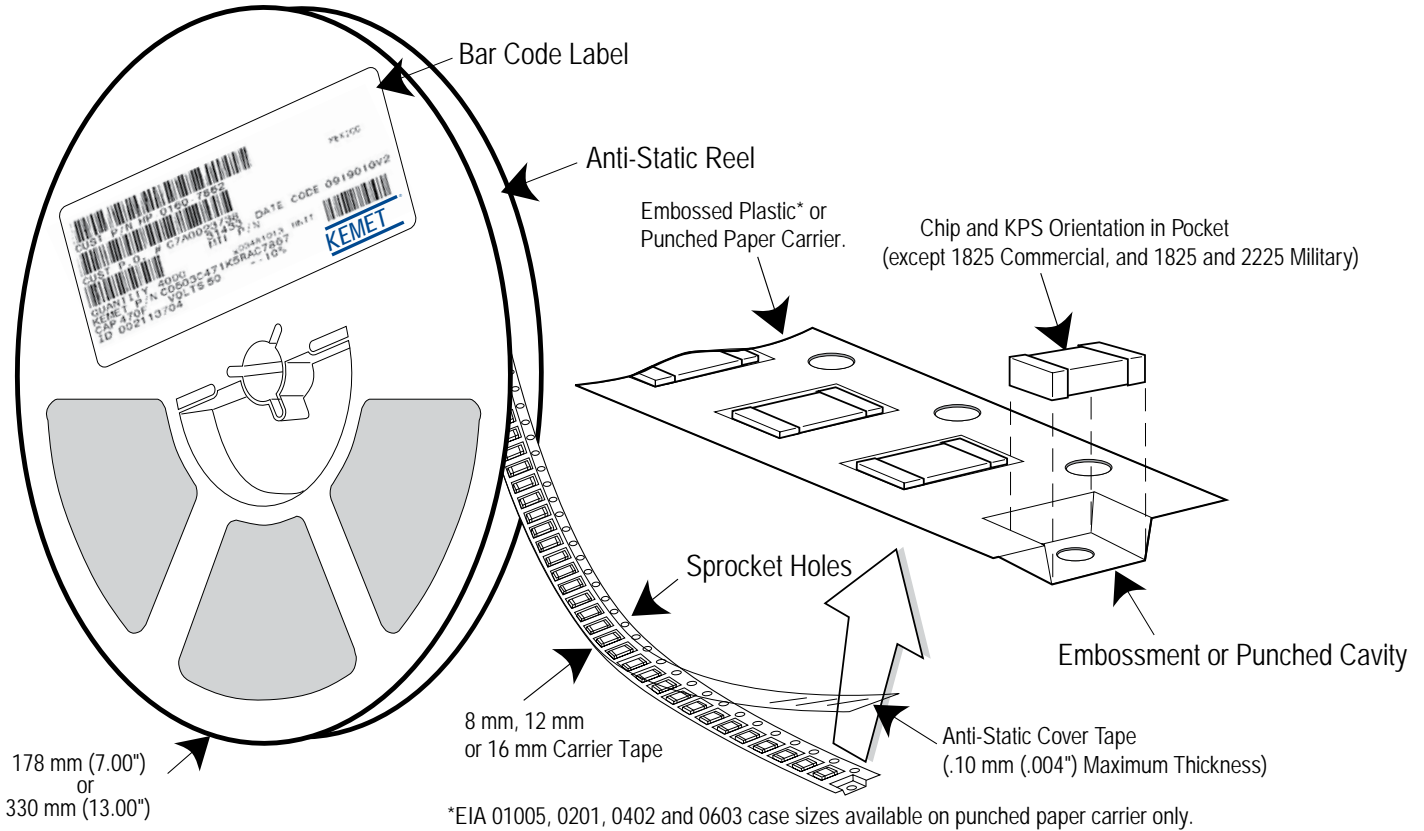


Table 5 – Carrier Tape Configuration – Embossed Plastic & Punched Paper (mm)

EIA Case Size	Tape Size (W)*	Pitch (P ₁)*
01005 – 0402	8	2
0603 – 1210	8	4
1805 – 1808	12	4
≥ 1812	12	8
KPS 1210	12	8
KPS 1812 & 2220	16	12
Array 0508 & 0612	8	4

*Refer to Figures 1 & 2 for W and P₁ carrier tape reference locations.

*Refer to Tables 6 & 7 for tolerance specifications.

Figure 1 – Embossed (Plastic) Carrier Tape Dimensions

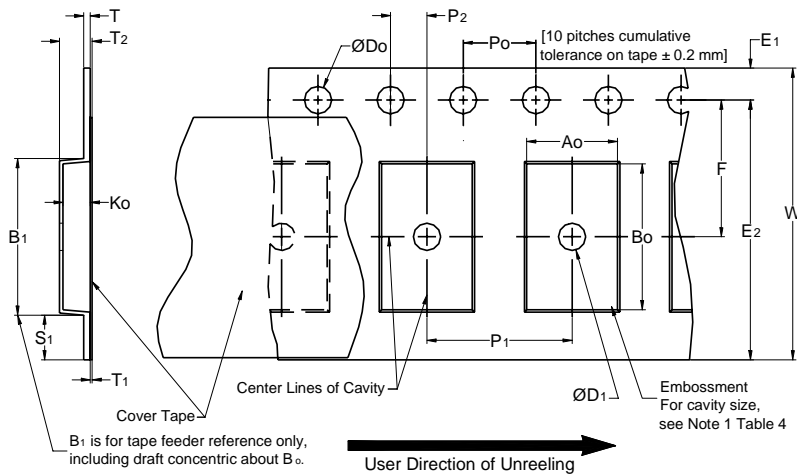


Table 6 – Embossed (Plastic) Carrier Tape Dimensions

Metric will govern

Constant Dimensions — Millimeters (Inches)									
Tape Size	D ₀	D ₁ Minimum Note 1	E ₁	P ₀	P ₂	R Reference Note 2	S ₁ Minimum Note 3	T Maximum	T ₁ Maximum
8 mm	1.5 +0.10/-0.0 (0.059 +0.004/-0.0)	1.0 (0.039)	1.75 ±0.10 (0.069 ±0.004)	4.0 ±0.10 (0.157 ±0.004)	2.0 ±0.05 (0.079 ±0.002)	25.0 (0.984)	0.600 (0.024)	0.600 (0.024)	0.100 (0.004)
12 mm		1.5 (0.059)				30 (1.181)			
16 mm									
Variable Dimensions — Millimeters (Inches)									
Tape Size	Pitch	B ₁ Maximum Note 4	E ₂ Minimum	F	P ₁	T ₂ Maximum	W Maximum	A ₀ , B ₀ & K ₀	
8 mm	Single (4 mm)	4.35 (0.171)	6.25 (0.246)	3.5 ±0.05 (0.138 ±0.002)	4.0 ±0.10 (0.157 ±0.004)	2.5 (0.098)	8.3 (0.327)	Note 5	
12 mm	Single (4 mm) & Double (8 mm)	8.2 (0.323)	10.25 (0.404)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	4.6 (0.181)	12.3 (0.484)		
16 mm	Triple (12 mm)	12.1 (0.476)	14.25 (0.561)	7.5 ±0.05 (0.138 ±0.002)	12.0 ±0.10 (0.157 ±0.004)	4.6 (0.181)	16.3 (0.642)		

- 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.
- The tape with or without components shall pass around R without damage (see Figure 6).
- If S₁ < 1.0 mm, there may not be enough area for cover tape to be properly applied (see EIA Standard 481 paragraph 4.3 section b).
- B₁ dimension is a reference dimension for tape feeder clearance only.
- The cavity defined by A₀, B₀ and K₀ shall surround the component with sufficient clearance that:
 - the component does not protrude above the top surface of the carrier tape.
 - the component can be removed from the cavity in a vertical direction without mechanical restriction, after the top cover tape has been removed.
 - rotation of the component is limited to 20° maximum for 8 and 12 mm tapes and 10° maximum for 16 mm tapes (see Figure 3).
 - lateral movement of the component is restricted to 0.5 mm maximum for 8 and 12 mm wide tape and to 1.0 mm maximum for 16 mm tape (see Figure 4).
 - for KPS Series product, A₀ and B₀ are measured on a plane 0.3 mm above the bottom of the pocket.
 - see Addendum in EIA Standard 481 for standards relating to more precise taping requirements.

Figure 2 – Punched (Paper) Carrier Tape Dimensions

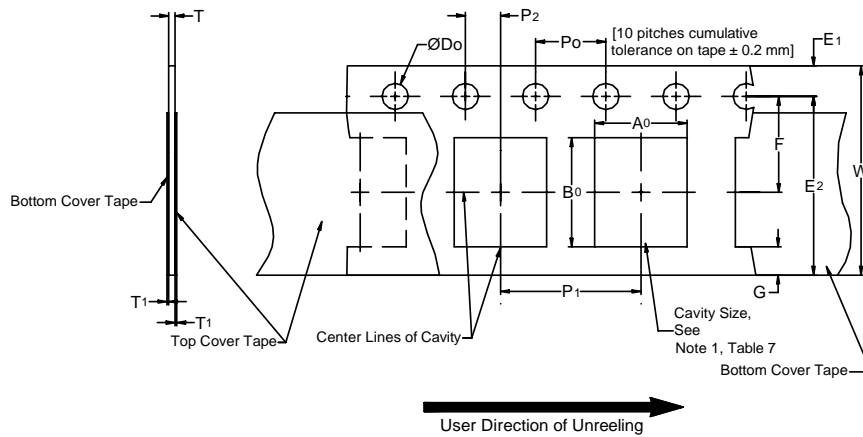


Table 7 – Punched (Paper) Carrier Tape Dimensions

Metric will govern

Constant Dimensions — Millimeters (Inches)							
Tape Size	D_0	E_1	P_0	P_2	T_1 Maximum	G Minimum	R Reference Note 2
8 mm	$1.5 +0.10 -0.0$ (0.059 +0.004 -0.0)	1.75 ± 0.10 (0.069 ±0.004)	4.0 ± 0.10 (0.157 ±0.004)	2.0 ± 0.05 (0.079 ±0.002)	0.10 (0.004) Maximum	0.75 (0.030)	25 (0.984)
Variable Dimensions — Millimeters (Inches)							
Tape Size	Pitch	E2 Minimum	F	P_1	T Maximum	W Maximum	$A_0 B_0$
8 mm	Half (2 mm)	6.25 (0.246)	3.5 ± 0.05 (0.138 ±0.002)	2.0 ± 0.05 (0.079 ±0.002)	1.1 (0.098)	8.3 (0.327)	Note 1
8 mm	Single (4 mm)			4.0 ± 0.10 (0.157 ±0.004)			

- The cavity defined by A_0 , B_0 and T shall surround the component with sufficient clearance that:
 - the component does not protrude beyond either surface of the carrier tape.
 - the component can be removed from the cavity in a vertical direction without mechanical restriction, after the top cover tape has been removed.
 - rotation of the component is limited to 20° maximum (see Figure 3).
 - lateral movement of the component is restricted to 0.5 mm maximum (see Figure 4).
 - see Addendum in EIA Standard 481 for standards relating to more precise taping requirements.
- The tape with or without components shall pass around R without damage (see Figure 6).

Packaging Information Performance Notes

- 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	Peel Strength
8 mm	0.1 to 1.0 Newton (10 to 100 gf)
12 and 16 mm	0.1 to 1.3 Newton (10 to 130 gf)

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. Labeling:** Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. Refer to EIA Standards 556 and 624.

Figure 3 – Maximum Component Rotation

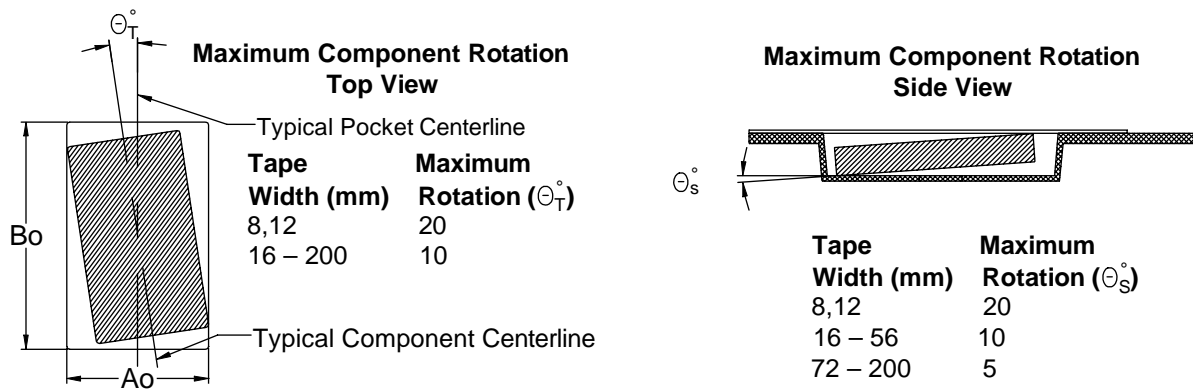


Figure 4 – Maximum Lateral Movement

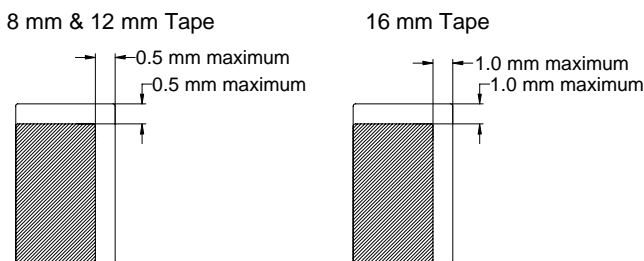


Figure 5 – Bending Radius

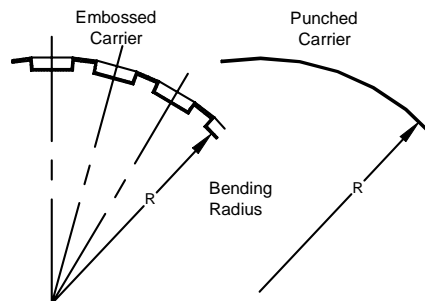
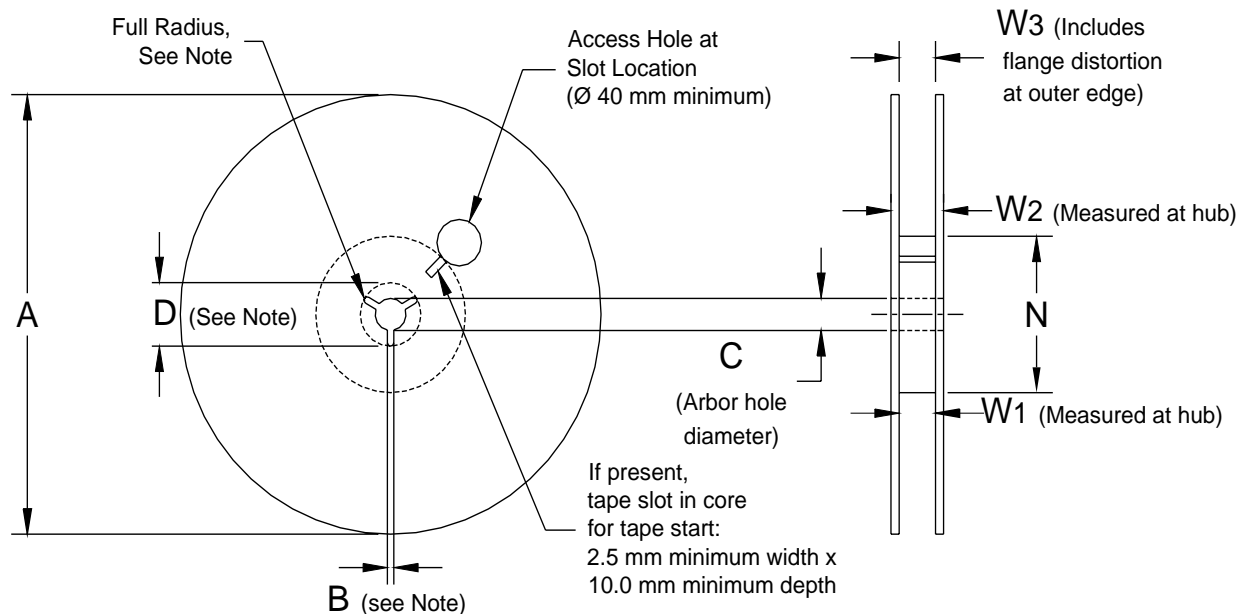


Figure 6 – Reel Dimensions



Note: Drive spokes optional; if used, dimensions B and D shall apply.

Table 8 – Reel Dimensions

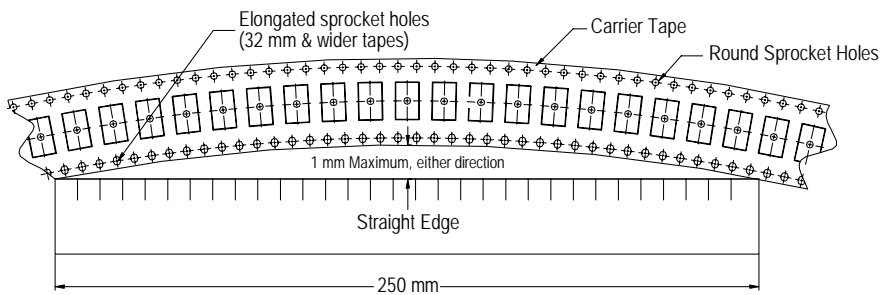
Metric will govern

Constant Dimensions — Millimeters (Inches)				
Tape Size	A	B Minimum	C	D Minimum
8 mm	178 ±0.20 (7.008 ±0.008) or 330 ±0.20 (13.000 ±0.008)	1.5 (0.059)	13.0 +0.5/-0.2 (0.521 +0.02/-0.008)	20.2 (0.795)
12 mm				
16 mm				
Variable Dimensions — Millimeters (Inches)				
Tape Size	N Minimum	W ₁	W ₂ Maximum	W ₃
8 mm	50 (1.969)	8.4 +1.5/-0.0 (0.331 +0.059/-0.0)	14.4 (0.567)	Shall accommodate tape width without interference
12 mm		12.4 +2.0/-0.0 (0.488 +0.078/-0.0)	18.4 (0.724)	
16 mm		16.4 +2.0/-0.0 (0.646 +0.078/-0.0)	22.4 (0.882)	

Figure 7 – Tape Leader & Trailer Dimensions



Figure 8 – Maximum Camber



KEMET Corporation World Headquarters

2835 KEMET Way
Simpsonville, SC 29681

Mailing Address:
P.O. Box 5928
Greenville, SC 29606

www.kemet.com
Tel: 864-963-6300
Fax: 864-963-6521

Corporate Offices
Fort Lauderdale, FL
Tel: 954-766-2800

North America

Southeast

Lake Mary, FL
Tel: 407-855-8886

Northeast

Wilmington, MA
Tel: 978-658-1663

Central

Novi, MI
Tel: 248-994-1030

West

Milpitas, CA
Tel: 408-433-9950

Mexico

Guadalajara, Jalisco
Tel: 52-33-3123-2141

Europe

Southern Europe

Paris, France
Tel: 33-1-4646-1006

Sasso Marconi, Italy
Tel: 39-051-939111

Central Europe

Landsberg, Germany
Tel: 49-8191-3350800

Kamen, Germany
Tel: 49-2307-438110

Northern Europe

Bishop's Stortford, United Kingdom
Tel: 44-1279-460122

Espoo, Finland
Tel: 358-9-5406-5000

Asia

Northeast Asia

Hong Kong
Tel: 852-2305-1168

Shenzhen, China
Tel: 86-755-2518-1306

Beijing, China
Tel: 86-10-5829-1711

Shanghai, China
Tel: 86-21-6447-0707

Taipei, Taiwan
Tel: 886-2-27528585

Southeast Asia

Singapore
Tel: 65-6586-1900

Penang, Malaysia
Tel: 60-4-6430200

Bangalore, India
Tel: 91-806-53-76817

Note: KEMET reserves the right to modify minor details of internal and external construction at any time in the interest of product improvement. KEMET does not assume any responsibility for infringement that might result from the use of KEMET Capacitors in potential circuit designs. KEMET is a registered trademark of KEMET Electronics Corporation.

Other KEMET Resources

Tools	
Resource	Location
Configure A Part: CapEdge	http://capacitoredge.kemet.com
SPICE & FIT Software	http://www.kemet.com/spice
Search Our FAQs: KnowledgeEdge	http://www.kemet.com/keask
Electrolytic LifeCalculator	http://www.kemet.com:8080/elc

Product Information	
Resource	Location
Products	http://www.kemet.com/products
Technical Resources (Including Soldering Techniques)	http://www.kemet.com/technicalpapers
RoHS Statement	http://www.kemet.com/rohs
Quality Documents	http://www.kemet.com/qualitydocuments

Product Request	
Resource	Location
Sample Request	http://www.kemet.com/sample
Engineering Kit Request	http://www.kemet.com/kits

Contact	
Resource	Location
Website	www.kemet.com
Contact Us	http://www.kemet.com/contact
Investor Relations	http://www.kemet.com/ir
Call Us	1-877-MyKEMET
Twitter	http://twitter.com/kemetcapacitors

Disclaimer

All product specifications, statements, information and data (collectively, the "Information") are subject to change without notice.

All Information given herein is believed to be accurate and reliable, but is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on our knowledge of typical operating conditions for such applications, but are not intended to constitute – and we specifically disclaim – any warranty concerning suitability for a specific customer application or use. This Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by us with reference to the use of our products is given gratis, and we assume no obligation or liability for the advice given or results obtained.

Although we design and manufacture our products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.



Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331