

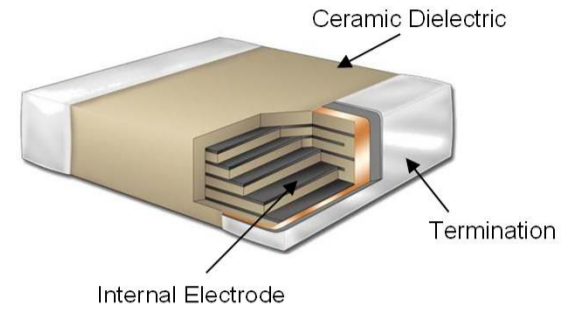
KEMET Surface Mount Ceramic

Revision N, 31 August 2015

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Characteristics and Typical Construction

- Standard EIA Chip Sizes
- C0G, X7R, X5R, Y5V, Z5U, X8L & Ultra Stable X8R Dielectrics
- Termination code 'C' products support manufacture of RoHS-compliant EEE
- 4 - 3000 Volts
- Tape & Reel Packaging
- Bulk Cassette packaging available
- Matte Tin finish terminations standard
- SnPb terminations available beginning August, 2005



RoHS Restricted Substance Content

Key for Determining Adherence to China RoHS and 2011/65/EU Content Criteria¹

○ = ≤ MCV, X = > MCV, X = > MCV, but EU RoHS Compliant with Exemption(s)

KEMET Product ³	Series	Substance and MCV ¹		Restricted Substance						China RoHS Symbol ²
		Termination Code	Voltage	Cd < 0.01%	Cr ⁶⁺ < 0.1%	Pb < 0.1%	Hg < 0.1%	PBB < 0.1%	PBDE < 0.1%	
Ceramic Chip / Standard	CxxxxC	C	<250 V DC	○	○	○	○	○	○	Ⓢ
Ceramic Chip / High Voltage			≥ 250 V DC	○	○	○	○	○	○	
Ceramic Open Mode Capacitors	CxxxxF	C	All	○	○	○	○	○	○	Ⓢ
High Temperature (175°C) X7R	CxxxxG	C								
	CxxxxR	C								
High Temperature (200°C) C0G	CxxxxH	C, E, F, G								
KEMET Commercial-Off-The-Shelf (COTS)	CxxxxT	C								
Low Profile Ceramic Chip / Standard	CxxxxL	C								
Floating Electrode	CxxxxS	C								
Floating Electrode w/ Flexible Termination	CxxxxY	C								
Flexible Termination	CxxxxX	C								
Ceramic Chip / Standard	CxxxxC	L (not available for 0201 products)								
Ceramic Chip / High Voltage	CxxxxF									
Ceramic Open Mode Capacitors X7R	CxxxxH									
High Temperature (200°C) C0G	CxxxxT									
KEMET Commercial-Off-The-Shelf (KCOTS)	CxxxxL									
Low Profile Ceramic Chip / Standard	CxxxxS									
Floating Electrode	CxxxxY									
Floating Electrode w/ Flexible Termination	CxxxxX									

¹ MCV = Maximum Concentration Values per 2011/65/EU and China RoHS criteria.

² China RoHS Symbol based on current manufacturing.

³ All dielectrics unless otherwise noted.

Soldering Capability Characteristics

	Matte Tin Termination	Gold Termination	Tin/ Lead Termination
Termination Material	Silver or Copper	Silver or Copper	Silver or Copper
Termination Plating (Barrier)	100% Matte Sn (Nickel)	Au (Nickel)	90Sn10 Pb (Nickel)
Peak Temperature Capability	260°C	260°C	260°C
Soldering Process Compatibility	Backward & Forward Compatible	Backward & Forward Compatible	Backward & Forward Compatible
MSL Rating per J-STD-020C	Not Classified ⁴	Not Classified ⁴	Not Classified ⁴
Tin Whisker Test Results <i>based on JESD22-A121 and JESD201⁵</i>	Class 2	Class 2	Class 2

⁴ MSL not classified for ceramic capacitors. J-STD-020 is applicable to non-hermetic surface mount devices, and is intended for plastic package components. KEMET ceramic chips are not encapsulated in a plastic package, so they are not susceptible to these effects. If an MSL were required, the rating this product would be considered MSL 1 or better.

⁵ Per EIA/ECA component bulletin CB19, tin whiskering is not considered a reliability risk within the capacitor industry for non-Military / Hi-Rel applications.

Ordering

C	1206	C	104	K	5	G	A	C
Ceramic	Case Size (L"x W")	Specification/ Series	Capacitance Code (pF)	Capacitance Tolerance	Voltage	Dielectric	Failure Rate/ Design	Termination Finish
		C = Standard F = Open Mode H = High Temp (200°C) S = Floating Electrode T = COTS / Medical X = Flexible Termination Y = Floating Electrode w/ Flexible Termination L = Low Profile J = Open Mode w/ Flexible Termination V = ArcShield W = Arcshield w/ Flexible Termination	2 Sig. Digits + Number of Zeros* *Use 9 for 1.0 - 9.9pF *Use 8 for 0.5 - .99pF ex. 2.2pF = 229 ex. 0.5pF = 508			G = C0G R = X7R P = X5R H = Ultra Stable X8R N = X8L U = Z5U V = Y5V	A = N/A 1 = KPS Single Chip Stack 2 = KPS Double Chip Stack A = Group A Testing per MIL-PRF-55681 PDA 8% B = Group A Testing per MIL-PRF-55681 PDA 8%, DPA per EIA-469 C = Group A Testing per MIL-PRF-55681 PDA 8%, DPA per EIA-469, Humidity per MIL-STD-202, Method 103, Condition A W = Pulse Detonation	C = 100% Matte Sn L = SnPb (5% min) E = Gold (Au) 1.97 - 11.8 µin F = Gold (Au) 30 - 50 µin G = Gold (Au) 100 µin min.

Reel level KEMET EZ ID label indicates product content relative to substance restrictions of the EU RoHS Directive, 2011/65/EU and China RoHS.
RoHS-PRC = Meets criteria without exemption
RoHS-EU = Meets criteria with exemption
RoHS-NO = Does not meet criteria

