



Multilayer Ceramic Capacitors

U2J Dielectric, Commercial & Automotive Grade



Why Choose KEMET

KEMET Electronics Corporation is a leading global supplier of electronic components. We offer our customers the broadest selection of capacitor technologies in the industry, along with an expanding range of electromechanical devices, electromagnetic compatibility solutions and supercapacitors. Our vision is to be the preferred supplier of electronic component solutions for customers demanding the highest standards of quality, delivery and service.

Features & Benefits

- AEC-Q200 automotive qualified
- Operating temperature range of -55°C to +125°C
- Lead-free (Pb-free), RoHS and REACH compliant
- Retains over 99% of nominal capacitance at full rated voltage
- DC voltages up to 50 V
- Up to 120% higher capacitance than COG
- Low ESR and ESL
- Low noise solution similar to COG (low distortion)
- Low dissipation factor $DF < 0.1\%$
- High thermal stability
- High ripple current capability
- High frequency capability
- Small predictable and linear capacitance change with respect to temperature
- Non-polar devices, minimizing installation concerns
- Flexible termination options available

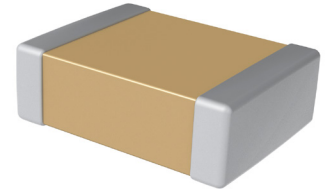
Product Checklist

- Does the application require the stability of a Class 1 dielectric?
- Is there a requirement of a low noise solution?
- Are ESL and ESR a concern?
- Is there a requirement of a predictable change in capacitance with respect to temperature?
- Is there a requirement for a non-polarized solution?
- What is the end application?

For more information, samples and engineering kits, please visit us at www.kemet.com or call 1.877.myKEMET.

Applications

- Data acquisition filters
- PLL low pass filter
- Transient voltage suppression
- Voltage control oscillator
- DC blocking
- Decoupling and bypass
- Critical timing
- Tuning
- Energy storage
- Circuits with pulse
- Sensing



Electrical/Physical Characteristics

Operating Temperature Range	Capacitance Change with Reference to +25°C and 0 VDC Applied (TCC)	Aging Rate (Maximum % Capacitance Loss/Decade Hour)	Dielectric Withstanding Voltage (DWV)	Dissipation Factor (DF) Maximum Limit at 25°C	Insulation Resistance (IR) Minimum Limit at 25°C
-55°C to +125°C	-750 ± 120 ppm/°C	0.1%	250% of rated voltage (5 ± 1 seconds and charge/discharge not exceeding 50 mA)	0.1%	1,000 megohm microfarads or 100 GΩ (Rated voltage applied for 120 ± 5 seconds at 25°C)

Ordering Information

C	1206	C	104	J	4	J	A	C	TU
Ceramic	Style/Size	Specification/ Series	Capacitance Code (pF)	Capacitance Tolerance	Rated Voltage (VDC)	Dielectric	Failure Rate	Termination Finish	Packaging (C-Spec)
	0402 ¹ 0603 0805 1206 1210 1812	C = Standard X = Flexible Termination	First two digits represent significant figures. Third digit specifies number of zeros	F = ±1% G = ±2% J = ±5% K = ±10% M = ±20%	8 = 10 4 = 16 3 = 25 5 = 50	J = U2J	A = N/A	C = 100% Matte Sn	See "Packaging C-Spec Ordering Options Table"

¹ Flexible termination not available for 0402 case size

Packaging C-Spec Ordering Options Table

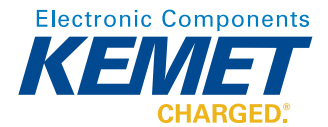
Packaging Type	Packaging / Grade Ordering Code (C-Spec)	Automotive C-Specs
Bulk Bag	-	-
7" Reel	TU	AUTO
13" Reel / Punched Paper	7411	AUTO7411
13" Reel / Embossed Plastic	7210	AUTO7210

¹ For 0603 case size 2mm pitch option available

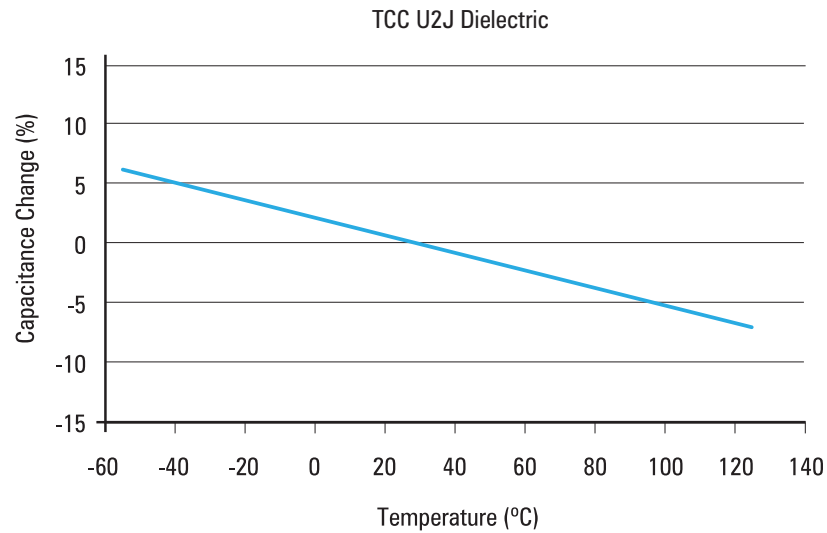


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Typical Capacitance vs. Temperature



Typical DC & AC Bias Effective Capacitance

