



Multilayer Ceramic Capacitors

High Voltage Surface Mount



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

- Industry-leading CV values
- Pb-Free, RoHS and REACH compliant
- 100% pure matte tin-plated termination finish allowing for excellent solderability
- SnPb-plated termination finish option available upon request (5% Pb min)
- Rated voltages of 500 V – 3,000 V
- Non-polarized
- High volumetric capacitance with low leakage current
- Extremely low ESR and ESL
- High thermal stability
- High ripple current capability
- Preferred capacitance solution at frequencies exceeding 100 kHz
- Lead-free solder process capability (260°C)
- Automotive grade available
- RoHS compliant (when ordered with standard 100% Sn termination finish)

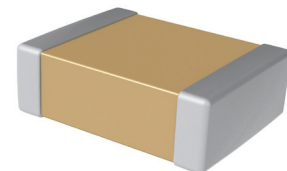
Product Checklist

- Is your application frequency greater than 100 kHz?
- Do you prefer a surface mount solution?
- Do you require a non-polarized solution?
- Is ripple current a concern?
- Are ESL and/or ESR a concern?
- Is your solder process Pb-Free?
- Do you require stricter testing protocol and inspection criteria (Automotive grade)

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

Applications

- Power supply
- DC/DC converter
- HID lighting
- Industrial equipment/control
- Computer (LAN/WAN interface)
- Motor control circuits (hybrid automotive, industrial)
- High voltage power supply
- LCD fluorescent backlight ballast
- Telecommunications equipment
- Medical equipment/control
- Switch mode power supply
- Input filter
- Resonators
- Tank circuit
- Snubber circuit
- Output filter
- High voltage coupling
- High voltage DC blocking
- Voltage multiplier circuits
- Coupling capacitor/Cuk
- Input protection for LAN/telecom products
- RF antenna transmitter circuits



Electrical/Physical Characteristics

| Case Size | Tolerances | Dielectric Options | Temperature Range | Voltage Options | Capacitance Values |
|-----------|-----------------------|------------------------|-------------------|-----------------|--------------------|
| 0603 | ± 0.25 pF to ± 20% | COG (1 pF – 150 nF) | -55°C to +125°C | 500 V | 1.0 pF to 560 nF |
| 0805 | | | | 630 V | |
| 1206 | 1,000 V | | | | |
| 1210 | 1,500 V | | | | |
| 1808 | 2,000 V | | | | |
| 1812 | 2,500 V | | | | |
| 1825 | 3,000 V | | | | |
| 2220 | | | | | |
| 2225 | | | | | |
| 2824 | | | | | |
| 3040 | | | | | |
| 3640 | | | | | |
| 4540 | | | | | |

COG Dielectric High Voltage Ordering Information

| C | 1210 | C | 332 | J | C | G | A | C | TU |
|---------|---------------------|--|------------------------------------|------------------------------------|---------------------|------------|----------------------|---------------------------------|--|
| Ceramic | Case Size (L" x W") | Specification/ Series | Capacitance Code (pF) | Capacitance Tolerance ¹ | Rated Voltage (VDC) | Dielectric | Failure Rate/ Design | Termination Finish ² | Packaging/ Grade (C-Spec) |
| | 0805 | C = Standard X = Flexible Termination | 2 Sig. Digits + Number of Zeros | B = ±0.10 pF | C = 500 | G = COG | A = N/A | C = 100% Matte Sn | See "Packaging C-Spec Ordering Options Table" on next page |
| | 1206 | | | C = ±0.25 pF | B = 630 | | | | |
| | 1210 | | | D = ±0.5 pF | D = 1,000 | | | | |
| | 1808 | | | F = ±1% | F = 1,500 | | | | |
| | 1812 | | | G = ±2% | G = 2,000 | | | | |
| | 1825 | | | J = ±5% | Z = 2,500 | | | | |
| | 2220 | | | K = ±10% | H = 3,000 | | | | |
| | 2225 | | | M = ±20% | | | | | |
| | 2824 | | | | | | | | |
| | 3040 | | | | | | | | |
| | 3640 | | | | | | | | |
| | 4540 | | | | | | | | |

¹ Additional capacitance tolerance offerings may be available.

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



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Packaging C-Spec Ordering Options Table

| Packaging Type ¹ | Packaging/Grade Ordering Code (C-Spec) |
|---|---|
| Bulk Bag / Unmarked | Not required (Blank) |
| 7" Reel / Unmarked | TU |
| 13" Reel / Unmarked | 7411 (EIA 0603 and smaller case sizes) 7210 (EIA 0805 and larger case sizes) |
| 7" Reel / Unmarked / 2 mm pitch ² | 7081 |
| 13" Reel / Unmarked / 2 mm pitch ² | 7082 |

¹ Default packaging is "Bulk Bag." An ordering code C-Spec is not required for "Bulk Bag" packaging.

¹ The terms "Marked" and "Unmarked" pertain to laser marking option of capacitors. All packaging options labeled as "Unmarked" will contain capacitors that have not been laser marked. Please contact KEMET if you require a laser marked option.

² The 2 mm pitch option allows for double the packaging quantity of capacitors on a given reel size. This option is limited to EIA 0603 (1608 metric) case size devices.

X7R Dielectric High Voltage Ordering Information

| C | 1210 | C | 154 | K | C | R | A | C | TU |
|---------|--|--|---------------------------------|---------------------------------|---|------------|----------------------|---|---|
| Ceramic | Case Size (L"x W") | Specification/ Series | Capacitance Code (pF) | Capacitance Tolerance | Rated Voltage (VDC) | Dielectric | Failure Rate/ Design | Termination Finish ¹ | Packaging/ Grade (C-Spec) |
| | 0603 0805 1206 1210 1808 1812 1825 2220 2225 | C = Standard X = Flexible Termination | 2 Sig. Digits + Number of Zeros | J = ±5% K = ±10% M = ±20% | C = 500 B = 630 D = 1,000 F = 1,500 G = 2,000 Z = 2,500 H = 3,000 | R = X7R | A = N/A | C = 100% Matte Sn L = SnPb (5% Pb min) | See "Packaging C-Spec Ordering Options Table" below |

¹ Additional termination finish options may be available. Contact KEMET for details.

X7R HV Packaging C-Spec Ordering Options Table

| Packaging Type ¹ | Packaging/Grade Ordering Code (C-Spec) |
|---|---|
| Bulk Bag / Unmarked | Not required (Blank) |
| 7" Reel / Unmarked | TU |
| 13" Reel / Unmarked | 7411 (EIA 0603 and smaller case sizes) 7210 (EIA 0805 and larger case sizes) |
| 7" Reel / Marked | TM |
| 13" Reel / Marked | 7040 (EIA 0603 and smaller case sizes) 7215 (EIA 0805 and larger case sizes) |
| 7" Reel / Unmarked / 2 mm pitch ² | 7081 |
| 13" Reel / Unmarked / 2 mm pitch ² | 7082 |

¹ Default packaging is "Bulk Bag." An ordering code C-Spec is not required for "Bulk Bag" packaging.

¹ The terms "Marked" and "Unmarked" pertain to laser marking option of capacitors. All packaging options labeled as "Unmarked" will contain capacitors that have not been laser marked. Please contact KEMET if you require a laser marked option.

² The 2 mm pitch option allows for double the packaging quantity of capacitors on a given reel size. This option is limited to EIA 0603 (1608 metric) case size devices.