



MULTILAYER CERAMIC CHIP CAPACITORS

VJ HIGHFREQ Series

Capacitors - Suitable For High-Frequency Applications

Surface-Mount Multilayer Ceramic Chip Capacitors for High-Frequency Applications



KEY BENEFITS

- Low dissipation factor ($\leq 0.05\%$)
- High Q (≥ 2000)
- Tight tolerance: as tight as $\pm 0.1\text{ pF}$
- Broad working voltages
 - 0402: 25 V to 200 V
 - 0603: 25 V to 250 V
 - 0805: 25 V to 250 V
- Wide capacitance range: 1 pF to 1.5 nF

APPLICATIONS

- Filter networks
- Matching networks
- Amplifier circuits
- DC blocking circuits

RESOURCES

- Datasheet: VJ HIGHFREQ Series - <http://www.vishay.com/doc?45071>
- For technical questions contact mlccrf@vishay.com
- Material categorization: For definitions of compliance please see <http://www.vishay.com/doc?99912>

*Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.



RoHS*
COMPLIANT

GREEN
(5-2008)
Available

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



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ELECTRICAL SPECIFICATIONS

Note

- Electrical characteristics at 25 °C unless otherwise specified

Operating Temperature: - 55 °C to + 125 °C

Capacitance Range:

0402: 1.0 pF to 82 pF

0603: 1.0 pF to 470 pF

0805: 1.0 pF to 1.5 nF

Voltage Rating: 25 V_{DC} to 250 V_{DC}

Temperature Coefficient of Capacitance (TCC):

COG (D): 0 ppm/°C ± 30 ppm/°C from - 55 °C to + 125 °C with zero (0) V_{DC} applied

Dissipation Factor (DF):

COG (D): 0.05 % max. at 1.0 V_{RMS} and 1 MHz

| ORDERING INFORMATION | | | | | | | |
|----------------------|------------|---|--|--|---|----------------|--|
| VJ0603 | D | 1R0 | B | X | B | A | C |
| CASE CODE | DIELECTRIC | CAPACITANCE NOMINAL CODE | CAPACITANCE TOLERANCE | TERMINATION | DC VOLTAGE RATING (1) | MARKING | PACKAGING |
| 0402 0603 0805 | D = HIFREQ | Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. An "R" indicates a decimal point. Examples: 1R0 = 1.0 pF | B = ± 0.10 pF C = ± 0.25 pF D = ± 0.50 pF F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 % M = ± 20 % Note Details see selection chart | E = AgPd (2) X = Ni barrier 100 % tin plate matte finish N = Non-magnetic L = Ni barrier with tin lead plated finish min. 4 % lead | X = 25 V A = 50 V B = 100 V C = 200 V P = 250 V | A = No marking | T = 7" reel/plastic tape C = 7" reel/paper tape O = 7" reel/flamed paper tape J = 7" reel (low quantity) R = 11 1/4"/13" reel/plastic tape P = 11 1/4"/13" reel/paper tape I = 11 1/4"/13" reel/flamed paper tape B = Bulk Note "I" and "O" is used for "E"/"N" termination code |

Notes

- DC voltage rating should not be exceeded in application
- Termination code "E" is for conductive epoxy assembly

| DIMENSIONS in inches (millimeters) | | | | | | |
|------------------------------------|--------|--------------------------------|--------------------------------|-----------------------|----------------------|-----------------|
| | | | | | | |
| CASE CODE | STYLE | LENGTH (L) | WIDTH (W) | MAXIMUM THICKNESS (T) | TERMINATIONS PAD (P) | |
| | | | | | MINIMUM | MAXIMUM |
| 0402 | VJ0402 | 0.040 ± 0.004 (1.02 ± 0.10) | 0.020 ± 0.004 (0.51 ± 0.10) | 0.021 (0.61) | 0.004 (0.10) | 0.016 (0.41) |
| 0603 | VJ0603 | 0.063 ± 0.006 (1.60 ± 0.15) | 0.031 ± 0.005 (0.80 ± 0.12) | 0.036 (0.92) | 0.012 (0.30) | 0.018 (0.46) |
| 0805 | VJ0805 | 0.079 ± 0.008 (2.00 ± 0.20) | 0.049 ± 0.008 (1.25 ± 0.20) | 0.057 (1.45) | 0.010 (0.25) | 0.028 (0.71) |

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