

MLC Series 積層陶瓷型電容器 (獨石電容器)

Electrical Specifications

- Capacitance Range: 1pF to 100 μ F
- Capacitance Tolerance: (Standard)
 - NPO: $F=\pm 1\%$ (10pF and above)---special tolerance
 - G= $\pm 2\%$ (10pF and above)---special tolerance
 - B= $\pm 0.1PF$ (10PF and below)---special tolerance
 - C= $\pm 0.25PF$ (10PF and below)---general tolerance
 - D= $\pm 0.5pF$ (10pF and below)---general tolerance
 - J= $\pm 5\%$ (10pF and above)---general tolerance
 - K= $\pm 10\%$ (5.6pF and above)---general tolerance
 - X7R/X5R: J= $\pm 5\%$ ---special tolerance
 - K= $\pm 10\%$, M= $\pm 20\%$ ---general tolerance
 - Z5U, Y5V: M= $\pm 20\%$
 - Z= $+80/-20\%$ ---general tolerance
- Voltage: 16,25, 50, 63, 100, 200, 250, 400,500, 630,1K 2K 3K 4K VDC
- Temperature Characteristics:
 - NPO: 0 ± 60 ppm $^{\circ}C$, -55 $^{\circ}C$ to + 125 $^{\circ}C$
 - X7R: $\pm 15\%\Delta C$, -55 $^{\circ}C$ to + 125 $^{\circ}C$
 - X5R: $\pm 15\%\Delta C$, -55 $^{\circ}C$ to + 85 $^{\circ}C$
 - Y5V: +22% to -82% ΔC , -25 $^{\circ}C$ to + 85 $^{\circ}C$
 - Z5U: +22% to -56% ΔC , +10 $^{\circ}C$ to + 85 $^{\circ}C$
- Insulation Resistance
 - NPO, 10,000 M Ω min. or 1000 Ω -Farads min.
Whichever is less at 25 $^{\circ}C$ at it is voltage.
 - X7R/X5R: 3,000 M Ω min. or 500 Ω -Farads min.
Whichever is less at 25 $^{\circ}C$ at it is voltage.
 - Z5U, Y5V:1,000 M Ω min. or 100 Ω -Farads min.
whichever is less at 25 $^{\circ}C$ at it is voltage.
- MECHANICAL SPECIFICATIONS
- Cast: Conformal coated (epoxy)
- Lead Material:Solder coated, cp-wire
- Package Method: Bulk, Tape Ammo/Reel Package,
- Solderability:(MIL-STD-202, Method 208)
- Leach Resistance: Temp 250 $^{\circ}C$, 20 seconds
immersion is Sn62

- STANDARD TOLERANCE
 - NPO: J.K.D (under 10PF).
 - X7R/X5R: K.M.
 - Y5V: Z.M
 - Z5U: M.
- Capacitance Test @25 $^{\circ}C$ Or referred to +25 $^{\circ}C$:
 - NPO, X7R, X5R
 - 1.0 Vrms ± 0.25 Vrms and 1 kHz;
 - 1MHz for values below 100pF,
 - Z5U, Y5V: 0.1 Vrms maximum and 1kHz.
- Dissipation Factor:
 - NPO: 0.1% maximum @25 $^{\circ}C$, 1.0 Vrms
 - ± 0.25 Vrms and 1kHz, 1 MHz for values below 100pf.
 - X7R/X5R: 7% for $\geq 50VDC$, $\geq 1\mu F$, 10% Maximum; $\leq 25VDC$ 12% Maximum $\geq 1\mu F$, 16% @25 $^{\circ}C$, 1.0 Vrms ± 0.25 Vrms and 1kHz.
 - Y5V: 7% for $\geq 50VDC$ $> 1\mu F$, 10% maximum; $\leq 25VDC$ 12% maximum @25 $^{\circ}C$, 0.1 Vrms maximum and 1kHz
 - Z5U: 7% for $\geq 50VDC$ maximum $\leq 25VDC$ 15% maximum @25 $^{\circ}C$, 0.5 Vrms maximum and 1kHz
- Dielectric Strength:
 - NPO, X7R, X5R: 250% rated voltage with 50 mA max charging current $< 100VDC$, $\geq 100VDC$ 125%.
 - Z5U, Y5V: 200% rated voltage with 50 mA Maximum charging current $\leq 100VDC$.
- Life Test: (1000 hrs)
 - NPO, X7R: 150% rated voltage at +125 $^{\circ}C$ $\leq 50VDC$; $> 50VDC$ 100%
 - X5R, Z5U; Y5V: 150% rated voltage at + 85 $^{\circ}C$ $\leq 50VDC$
- Humidity Resistance:
 - (Same MLCC Method 13)
 - NPO, X7R, X5R, Z5U, Y5V: 96 hrs at 40 $^{\circ}C$ relative
- Humidity 90~95%
- Storage: store all capacitors indoors 5~35 $^{\circ}C$ humidity $< 75\%$. They are warranted for a period of 2 years from the date of manufacture.

Typical Characteristics

