

Multilayer Ceramic Capacitors

[ Normal Chip Capacitors – less than 1uF]

**NCC Series**



Standard Multilayer Ceramic Capacitors are available in a full range of sizes and temperature coefficients, with voltage ratings from 6.3V to 50V.

◆ **Features**

- Surface mount suitable for wave and reflow soldering
- Small size and high reliability
- Excellent in high frequency characteristics
- RoHS compliant

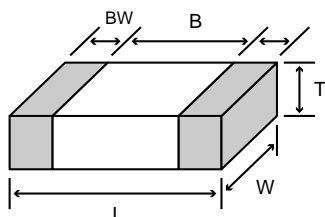
◆ **Applications**

- Suitable for general electronics circuit, telecommunication, personal computers and peripheral, power circuit, mobile application, etc.

◆ **Summary of Specifications**

Operation Temperature	NP0/X7R/X7S : -55 °C to +125 °C , X6R : -55 °C to +105 °C, X5R : -55 °C to +85 °C
Rated Voltage	6.3Vdc to 50Vdc
Temperature Coefficient	NP0 : $\leq \pm 30\text{ppm}/^\circ\text{C}$ , -55 °C to +125 °C (EIA Class I)
	X7R : $\leq \pm 15\%$ , -55 °C to +125 °C (EIA Class II)
	X7S : $\leq \pm 22\%$ , -55 °C to +125 °C (EIA Class II)
	X6S : $\leq \pm 22\%$ , -55 °C to +105 °C (EIA Class II)
	X5R : $\leq \pm 15\%$ , -55 °C to +85 °C (EIA Class II)
Dissipation Factor	NP0 : More than 30pF : $Q \geq 1000$ 30pF & below : $Q \geq 400 + 20C$ (C : Capacitance , pF)
	X7R/X7S/X6S/X5R : 10% max
Insulation Resistance	10,000mΩ or 500/CΩ, whichever is smaller for rated voltage > 10V and greater than 100/CΩ for rated voltage ≤ 10V.
Aging	NP0 : 0% , X7R/X7S/X6S/X5R: typically 1.0%
Dielectric Strength	250% Rated Voltage

◆ **Dimension**



Unit : mm [inches]

SIZE	L	W	T (max)	B (min)	BW (min)
0201	0.60±0.09 [.024±.003]	0.30±0.09 [.011 ±.003]	0.39 [.015]	0.20 [.008]	0.10 [.004]
0402	1.00±0.05 [.039±.002]	0.50±0.05 [.020 ±.002]	0.55 [.022]	0.30 [.012]	0.15 [.006]
0603	1.60±0.10 [.063±.004]	0.80±0.10 [.031 ±.004]	1.00 [.039]	0.40 [.016]	0.15 [.006]
0805	2.00±0.20 [.079±.012]	1.25±0.20 [.049 ±.008]	1.45 [.057]	0.70 [.028]	0.20 [.008]
1206	3.20±0.30 [.126±.012]	1.60±0.20 [.063±.008]	1.80 [.071]	1.50 [.059]	0.30 [.012]

◆ **How To Order**

Product Code	Chip Size	Dielectric	Capacitance Unit : pF	Tolerance	Rated Voltage	Packaging	Thickness (mm) (Optional)	Suffix Code
C: MLCC (Multilayer Ceramic Capacitor)	Ex.: 0201 0402 0603 0805 1206	Ex.: N : NP0 X : X7R R : X7S S : X6S B : X5R	Ex.: 102 : 10x10 <sup>2</sup> 103 : 10x10 <sup>3</sup>	Ex.: F : +/- 1% G : +/- 2% J : +/- 5% K : +/- 10% M : +/- 20%	Ex.: 004 : 4Vdc 007 : 6.3Vdc 010 : 10Vdc 016 : 16Vdc 025 : 25Vdc 035 : 35Vdc 050 : 50Vdc	Ex.: T: T&R 7" R: T&R 13" B: Bulk	Ex: E: 1.6±0.20 F: 2.0±0.20 S: 0.3±0.03	Y

