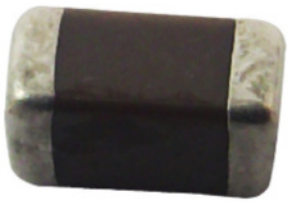
General Purpose Multilayer SMD Ceramic Capacitor
0402 to 1812 Sizes, NP0, X7R & Y5V Dielectrics (10V to 100V)

RoHS Compliant



Description:

MLCC consists of a conducting material and electrodes. To manufacture a chip-type SMT and achieve miniaturization, high density and high efficiency, ceramic condensers are used. MLCC is made by NP0, X7R and Y5V dielectric material and which provides product with high electrical precision, stability and reliability.

Features:

- A wide selection of sizes is available (0402 to 1812)
- High capacitance in given case size
- Capacitor with lead-free termination (pure Tin)

Applications:

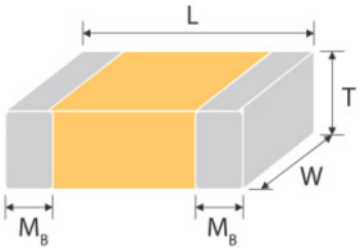
- For general digital circuit
- For power supply bypass capacitors
- For consumer electronics
- For telecommunication

How To Order:

MC	U	0805	C	102	J	C	T
	Rated voltage	**Size**	**Dielectric**	**Capacitance**	**Tolerance**	**Termination**	**Packaging style**
Multi-comp	Two significant digits followed by no. of zeros. And R is in place of decimal point. K=6.3V N=10V B=16V T=25V U=50V A=100V	Inch (mm) 0402 (1005) 0603 (1608) 0805 (2012) 1206 (3216) 1210 (3225) 1812 (4532)	C=NP0 (C0G) R=X7R F=Y5V	Two significant digits followed by no. of zeros. And R is in place of decimal point. eg.: 0R5=0.5pF 1R0=1.0pF 102=10×10^2 =1,000pF	B = ±0.1pF C = ±0.25pF D = ±0.5pF F = ±1% G = ±2% J = ±5% K = ±10% M = ±20% Z = -20/+80%	C=Cu/Ni/Sn L=Ag/Ni/Sn (for partial NP0 items)	T =7" reeled G = 13" reeled

Partial NP0 items are with Ag/Ni/Sn terminations, please ref to below product range of NPO dielectric for detail.

External Dimensions:



The outline of MLCC

Size Inch (mm)	L (mm)	W (mm)	T (mm)/Symbol		Remark	M_B (mm)
0402 (1005)	1 ±0.05	0.5 ±0.05	0.5 ±0.05	N	#	0.25 +0.05/-0.1
0603 (1608)	1.6 ±0.1	0.8 ±0.1	0.8 ±0.07	S	-	0.4 ±0.15
	1.6 +0.15/-0.1	0.8 +0.15/-0.1	0.8 +0.15/-0.1	X	-	
0805 (2012)	2 ±0.15	1.25 ±0.1	0.6 ±0.1	A	-	0.5 ±0.2
			0.8 ±0.1	B	-	
			1.25 ±0.1	D	#	
	2 ±0.2	1.25 ±0.2	1.25 ±0.2	I	#	

Size Inch (mm)	L (mm)	W (mm)	T (mm)/Symbol		Remark	M_B (mm)
1206 (3216)	3.2 ±0.15	1.6 ±0.15	0.8 ±0.1	B	-	0.6 ±0.2
			0.95 ±0.1	C	-	
			1.15 ±0.15	J	#	
			1.25 ±0.1	D	#	
			1.6 ±0.2	G	#	
	3.2 +0.3/-0.1	1.6 +0.3/0.1	1.6 +0.3/-0.1	P	#	
1210 (3225)	3.2 ±0.3	2.5 ±0.2	0.95 ±0.1	C	#	0.75 ±0.25
			1.25 ±0.1	D	#	
	3.2 ±0.4	2.5 ±0.3	1.6 ±0.2	G	#	
			2 ±0.2	K	#	
			2.5 ±0.3	M	#	
1812 (4532)	4.5 ±0.4	3.2 ±0.3	1.25 ±0.1	D	#	0.75 ±0.25
			2 ±0.2	K	#	

Reflow soldering only is recommended.

General Electrical Data:

Dielectric	NP0	X7R	Y5V
Size	0402, 0603, 0805, 1206, 1210, 1812		
Capacitance*	0.5pF to 0.1µF	100pF to 0.82µF	10nF to 0.68µF
Capacitance tolerance**	Cap≤5pF: B (±0.1pF), C (±0.25pF) 5pF<Cap<10pF: C (±0.25pF), D (±0.5pF) Cap≥10pF: F (±1%), G (±2%), J (±5%), K (±10%)	J (±5%), K (±10%), M (±20%)	M (±20%), Z (-20/+80%)
Rated voltage (WVDC)	10V, 16V, 25V, 50V, 100V	6.3V, 10V, 16V, 25V, 50V, 100V	
DF (Tan δ)*	Cap<30pF: Q≥400+20C Cap≥30pF: Q≥1,000	Note 1	
Operating temperature	-55°C to +125°C		-25 to +85°C
Capacitance change	±30ppm	±15%	+30/-80%
Termination	Ni/Sn (lead-free termination)		

* Measured at the condition of 30~70% related humidity.
NP0: Apply 1 ±0.2Vrms, 1MHz ±10% for Caps≤1,000pF and 1 ±0.2Vrms, 1kHz ±10% for Cap>1,000pF, 25°C at ambient temperature
X7R: Apply 1.0±0.2Vrms, 1.0kHz±10%, at 25°C ambient temperature.
Y5V: Apply 1.0±0.2Vrms, 1.0kHz±10%, at 20°C ambient temperature.

** Preconditioning for Class II MLCC : Perform a heat treatment at 150 ±10°C for 1 hour, then leave in ambient condition for 24±2 hours before measurement.