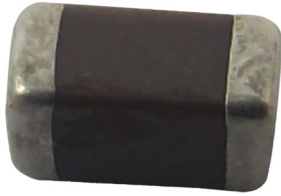


# Multilayer SMD Ceramic Capacitors High Capacitance Series



## 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.

High capacitance MLCC offers low ESR and excellent frequency characteristics to be suited for coupling and de coupling applications in circuit. The high dielectric constant material X5R is used for this series product.

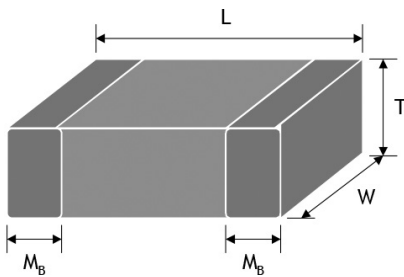
## Features

- Small size with high capacitance.
- Capacitor with lead-free termination (pure Tin).

## Applications

- Digital circuit coupling or de coupling applications.
- For high frequency and high-density type power suppliers.
- For bypassing.

## External Dimensions



Size Inch (mm)	L (mm)	W (mm)	T (mm)	MB (mm)
MC1206	3.2 ±0.15	1.6 ±0.15	0.95 ±0.1	0.6 ±0.2
			1.25 ±0.1	
	3.2 ±0.2	1.6 ±0.2	1.6 ±0.2	
			1.15 ±0.15	
3.2 +0.3/-0.1	1.6 +0.3/-0.1	1.6 +0.3/-0.1		

## General Electrical Data

Dielectric	X5R
Size	MC1206
Capacitance range*	0.027µF to 100µF
Capacitance tolerance**	K (±10%), M (±20%)
Rated voltage (WVDC)	6.3V, 10V, 16V, 25V, 50V, 100V
DF(Tan δ)*	Note 1
Operating temperature	-55°C to +85°C
Capacitance characteristic	±15%
Termination	Ni/Sn (lead-free termination)

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\* Measured at 1 ±0.2Vrms, 1kHz ±10% for C≤10μF; 0.5 ±0.2Vrms, 120Hz ±20% for C>10μF, 30 to 70% related humidity, 25°C ambient temperature for X5R.

\*\* 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.

## Note 1:

X5R

Rated vol.	D.F. ≤	Exception of D.F. ≤	
≥50V	≤2.5%	≤3%	MC1206 ≥0.47μF
		≤10%	MC1206 ≥4.7μF
25V	≤3.5%	≤7%	MC1206 ≥4.7μF
		≤10%	MC1206 ≥6.8μF
16V	≤3.5%	≤5%	MC1206 ≥2.2μF
		≤10%	MC1206 ≥4.7μF
10V	≤5%	≤10%	MC1206 ≥2.2μF
6.3V	≤10	≤15%	MC1206 ≥47μF

## X5R Dielectric

Dielectric		X5R				
Size		MC1206				
Rated Voltage (V DC)		6.3	10	16	25	50
Capacitance	1.5μF (155)		J	J		
	2.2μF (225)		J	J	P	
	3.3μF (335)		P	P	P	
	4.7μF (475)	P	P	P	P	P
	6.8μF (685)	P	P			
	10μF (106)	P	P	P	P	
	22μF (226)	P	P	P		
	47μF (476)	P	P			
	100μF (107)	P				

## Packaging Style

Size	Thickness (mm)/Symbol	
MC1206	0.95 ±0.1	C
	1.15 ±0.15	J
	1.25 ±0.1	D
	1.6 ±0.2	G
	1.6 +0.3/-0.1	P

www.element14.com  
www.farnell.com  
www.newark.com

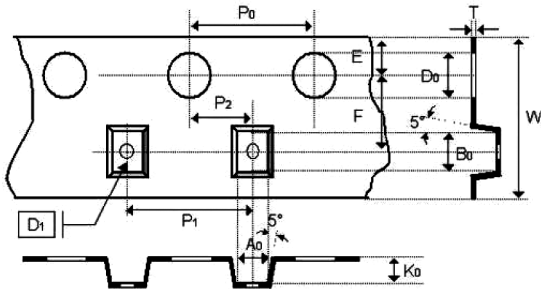


# Multilayer SMD Ceramic Capacitors High Capacitance Series



## Appendixes

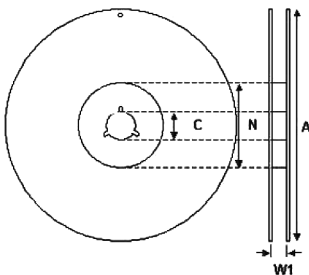
### Tape & reel dimensions



### Tape Dimension

Size	MC1206		
Thickness	B	C, J, D	G,P
A0	2 ±0.1	<1.85	<1.95
B0	3.5 ±0.1	<3.46	<3.67
T	0.95 ±0.05	0.23 ±0.05	0.23 ±0.05
K0	-	<2.5	<2.5
W	8 ±0.1	8 ±0.1	8 ±0.1
P0	4 ±0.1	4 ±0.1	4 ±0.1
10xP0	40 ±0.1	40 ±0.1	40 ±0.1
P1	4 ±0.1	4 ±0.1	4 ±0.1
P2	2 ±0.05	2 ±0.05	2 ±0.05
D0	1.5 ±0.05	1.5 ±0.05	1.5 ±0.05
D1	-	1 ±0.1	1 ±0.1
E	1.75 ±0.1	1.75 ±0.1	1.75 ±0.1
F	3.5 ±0.05	3.5 ±0.05	3.5 ±0.05

### Reel Dimension



Size	MC1206		
Reel size	7"	10"	13"
C	13 +0.5/-0.2	13 +0.5/-0.2	13 +0.5/-0.2
W1	8.4 +1.5/-0	8.4 +1.5/-0	8.4 +1.5/-0
A	178 ±0.1	250 ±1.0	330 ±1
N	60 +1/-0	100 ±1.0	100 ±1

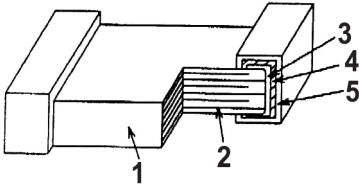


# Multilayer SMD Ceramic Capacitors

## High Capacitance Series



### Constructions



No.	Name	X5R
1	Ceramic material	BaTiO <sub>3</sub> based
2	Inner electrode	Ni
3	Termination	Inner layer
4		Middle layer
5		Outer layer
		Sn (Matt)

### Part Number Table

Description	Part Number
Capacitor, 10 $\mu$ F, 16V, X5R, 1206	MC1206X106K160CT
Capacitor, Ceramic, 10 $\mu$ F, 25V, X5R, 1206	MC1206X106K250CT
Capacitor, 22 $\mu$ F, 10V, X5R, 1206	MC1206X226M100CT
Capacitor, 22 $\mu$ F, 6.3V, X5R, 20%, 1206	MC1206X226M6R3CT

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