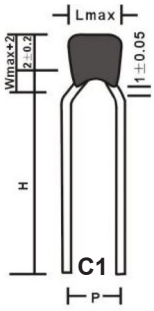
Radial Multilayer Ceramic Capacitors

RoHS Compliant

Feature

- Miniature size and large capacitance
- Tape and reel packaging suitable for auto-placement
- Epoxy resin coating creates excellent performance in humidity resistance, mechanical strength and heat resistance

Size Code and Voltage VS Capacitance



Size Code	Shape	Dimensions				
		F ±0.5	H min.	L max.	W max.	T max.
0805	C1	5.08mm	10mm	4.2mm	3.8mm	3mm

Size Code	Shape	Voltage	Available Capacitance Range
			X7R
0805	C1	50V	334

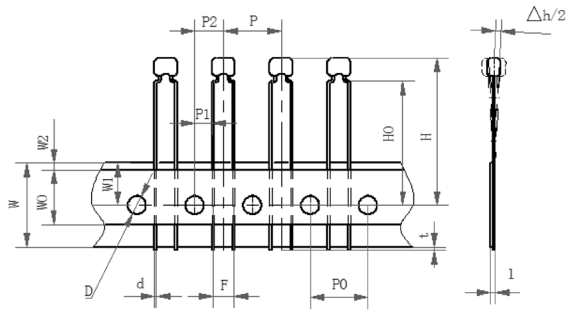
Reliability and Test Method for General Leaded MLCC

Item	Technical Specification			Test Method and Remarks		
Capacitance (C)	Class I	Within the specified tolerance.		Capacitance	Measuring Frequency	Measuring Voltage
				≤1000pF	1MHz ±10%	1 ±0.2V
				>1000 pF	1kHz ±10%	
	Class II	Within the specified tolerance.		The capacitance should be pretreated before measured(only for class II).		
				Measuring Frequency	Measuring Voltage	
				1kHz ±10%	B: 1 ±0.2V	
Dissipation Factor (DF)	Class I	C_R ≥50pF DF ≤0.15% C_R <50pF DF≤1.5 [(150/C_R)+7] ×10^{-4}		Capacitance	Measuring Frequency	1 ±0.2V
				≤1000pF	1MHz ±10%	
				>1000 pF	1kHz ±10%	
	Class II	B	DF ≤3.5%	1kHz ±10%; Measuring Frequency: 1kHz ±10% 1 ±0.2V Measuring Voltage: 1kHz ±10%		
Insulation Resistance	Class I	C≤10nF IR≥10000MΩ C>10nF R.C≥100ΩF		Measuring Voltage: Rated Voltage Duration: 60±5s		
	Class II	C≤25nF IR≥4000MΩ C>25nF R.C≥100ΩF				

Item	Technical Specification		Test Method and Remarks
Withstanding Voltage	No breakdown or damage.		Between terminals: Measuring Voltage: Duration: 5±1s Class I : 300% Rated voltage Class II : 250% Rated voltage The charge/discharge current is less than 50mA.
			Between terminals and body Voltage: 2.5 times rated voltage Duration:1~5s Small metallic ball method Small metallic balls with 1mm diameters shall be put in a vessel and the test capacitor shall be submerged except 2mm from the top of its component body and the terminals. The test voltage shall be applied between the short-circuited terminals and the metallic balls.
Solder ability	Lead wire shall be at least 75% covered with a new solder coating.		The terminal of capacitor is dipping into a 25% rosin solution of ethanol and then into molten solder (Sn-2.5Ag-1Bi-0.5Cu) of 245 ±2°C for less than 3s. In both cases the depth of dipping is up to about 1.5~2mm from the terminal body.
Resistance to Soldering Heat	Item	ΔC/C≤	Solder temperature: 265 ±3°C Duration: 6 (+1,0)s Immersed conditions: Inserted into the PC board (with t=1.6mm, hole=1.0mm diameter) Recovery: For class I, 4 to 24 hours of recovery under the standard condition after test. Preconditioning (Class II): 1 hour of preconditioning at 150(-10,+0)°C, followed by 48 ±4 hours of recovery under the standard condition. Recovery (Class II) : 48 ±4 hours of recovery under the standard condition after test.
	Class I	± 2.5% or ± 0.25pF	
	B	±10%	
	No significant abnormality in appearance.		
High Temperature Loading Test	No significant abnormality in appearance.		Temperature
	Capacitance Change: Class I: ≤ ±3% or ±0.3pF Whichever is larger. Class II: B:≤ ±12.5%		X7R
	Dissipation Factor: Class I: Not more than twice of initial value. B: ≤ 5%		125(-0,+3)°C
	Insulation Resistance: ≥ 500MΩ or 25Ω.F Whichever is smaller.		Applied voltage: 1.5 times rated voltage The charge/ discharge current is less than 50mA. Duration: 1000 (-0, +48) hours Recovery Time: Class I Dielectric: 24 ±2 hours Class II Dielectric: 48 ±4 hours
Solvent Resistance	No defects or abnormalities in appearance and legible marking.		Solvent temperature: put the sample into solvent 1 Min, and then take it out and brush sample's notation area 10 times with pledged, repeat 3 times.

*Note on standard condition: "standard condition" referred to herein should be defined as follows:
5 to 35°C of temperature, 45 to 75% of relative humidity, and 86 to 106kPa of atmospheric pressure.

Packaging Style



Code	P0	P	P1	P2	d	Δh	W	W0	W1	W2	H	H0	D	t
Dim.	12.7	12.7	3.85 5.1	6.35	0.5	0	18.5	12	9	1.5	32.25	15~20	4	0.7
Tol.	±0.2	±0.2	0.7	±1.3	±0.1	±2	±1	±1	±0.5	±1.5	Max.	±0.5	±0.2	Max.

P1=3.85mm for F=5.08mm; P1=5.1mm for F=2.54mm

Part Number Table

Description	Part Number
Capacitor, MLCC, X7R, 0.33µF, 50V, ± 10%, 5.08mm, 0805	MC0805B334K500A5.08MM