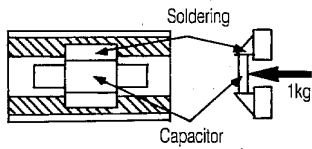


MULTILAYER CERAMIC CHIP CAPACITORS

OTHER SPECIFICATIONS AND TEST METHODS

Item	Performance				Testing method and Conditions (In accordance with EIAJ Standards)	
	Class I		Class II			
	NPO	X7R	Z5U	Y5V		
Operating Temperature Range	-55°C ~ +125°C		-25°C ~ +85°C		(class I) Up to 1,000pF: 1MHz ±10%, 0.5~5Vrms More than 1,000pF: 1KHz ±10%, 0.5-6Vrms (Class II) 1KHz ±10%, 1.0±0.2Vrms	
Capacitance	Capacitance Range	0.5pF ~ 6800 pF	47pF ~ 0.68μF	0.01μF ~ 4.7μF		1000pF ~ 1.5μF
	Tolerance	Up to 10pF	±0.25pF, ±0.5pF, ±1pF	±10%, ±20%		±20%, +80%, -20%
Over 10pF	±5%, ±10%					
Temperature Characteristic	No Rated Voltage Applied	0 ± 30 ppm/°C	±15%	+20% -55%	+30% -80%	Applied voltage: 50% of the rated voltage. Reference temperature: 25°C
	Rated Voltage Applied	—	+15% -40%	+20% -80%	+30% -95%	
Dissipation Factor (or Q)	C ≥ 30pF Q ≥ 1,000 C < 30pF Q ≥ 400+20C		2.5% or less	5% or less		Same as for capacitance
Rated Voltage	25V _{DC} , 50V _{DC}					
Withstanding Voltage	No insulation breakdown and no failure.				Class I: Applied 300% of the rated voltage. Class II: Applied 250% of the rated voltage.	Applications time is 1-5 seconds.
Insulation Resistance	More than either 10,000MΩ or 500MΩ•μF whichever value is smaller.				Rated voltage is applied for 1 minute	
Adherence Strength of End Termination			Solder a specimen on the testing jig shown on the left and apply a force of 1kgf (10N) in the direction indicated by the arrow.		Testing jig: 95-99% alumina plate Soldering: Solder uniformly with a soldering iron or in a furnace. Use a 3% silver-containing solder (JIS Z 2382 H60A). Avoid exposure to abnormal conditions such as thermal shock.	
		No peeling-off or exfoliating shall be manifest or recognizable in its incipient stages.				
Vibration Resistance	Visual	No serious Mechanical damage				According to JIS C 5102 (Section 8. 2)
	Capacitance	Within the specified tolerance				
	Dissipation Factor (or Q)	C ≥ 30pF Q ≥ 1,000 C < 30pF Q ≥ 400+20C		2.5% or less	5% or less	