

# MULTILAYER CERAMIC CHIP CAPACITOR

## 6. Specification and test methods

No	Item	Test Method	Specification									
1	Capacitance	The capacitance/DF shall be measured at 25°C at the frequency and voltage shown below	Within the specified tolerance									
2	Dissipation Factor	<table border="1"> <thead> <tr> <th>Type Item</th> <th>NPO(<math>\leq 1</math>nf)</th> <th>NPO(<math>&gt; 1</math>nf) ,X7R,Y5V</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td><math>1 \pm 0.1</math>MHz</td> <td><math>1 \pm 0.1</math>KHz</td> </tr> <tr> <td>Voltage</td> <td><math>1 \pm 0.2</math>Vrms</td> <td><math>1 \pm 0.1</math>Vrms</td> </tr> </tbody> </table>	Type Item	NPO( $\leq 1$ nf)	NPO( $> 1$ nf) ,X7R,Y5V	Frequency	$1 \pm 0.1$ MHz	$1 \pm 0.1$ KHz	Voltage	$1 \pm 0.2$ Vrms	$1 \pm 0.1$ Vrms	NPO:DF $\leq 0.1\%$ X7R : Vr =50V~3KV DF $\leq 2.5\%$ Vr =25V, DF $\leq 3.0\%$ Vr =16V, DF $\leq 3.5\%$ Vr =10V, DF $\leq 5.0\%$ Y5V : Vr =25V/50V, DF $\leq 7.0\%$ Vr =16V, DF $\leq 9.0\%$ Vr =10V, DF $\leq 12.5\%$
Type Item	NPO( $\leq 1$ nf)	NPO( $> 1$ nf) ,X7R,Y5V										
Frequency	$1 \pm 0.1$ MHz	$1 \pm 0.1$ KHz										
Voltage	$1 \pm 0.2$ Vrms	$1 \pm 0.1$ Vrms										
3	Insulation Resistance	Test voltage:rated voltage Charge time:2 minutes max. Charge current:less than 50mA	More than 10 G $\Omega$ or 1000 $\Omega$ F (whichever is smaller)									
4	Dielectric Strength	Test voltage(Vt): Vt=Vr $\times$ 250% for NPO(Vr=25V/50V/100V) Vt=Vr $\times$ 250% for X 7R& Y5V (Vr=10V/16V/25V/50V/100V) Vt=Vr $\times$ 150% +100 for product Vr=200V/250V Vt=Vr $\times$ 150% for product Vr=500V Vt=Vr $\times$ 120% for product Vr=1KV~3KV Test time:1~5 seconds Charge current:less than 50mA	No defect or abnormality Ir $\leq 0.1\mu$ A									
5	Breakdown Voltage	The DC voltage is applied between the terminations until the leakage current more than 10uA	Vr=10V/16V/25V/50V, BDV $\geq 700\%$ x Vr Vr=100V/200V/250V. BDV $\geq 500\%$ x Vr Vr $> 250$ V BDV $\geq 200\%$ x Vr									
6	Appearance	x8 magnification glass	No defect or abnormalities									
7	Dimension	Using calipers	Within the specified dimension									
8	Solderability of Termination	The capacitors are dipped into the solder bath at 215 $\pm 5$ °C for 2 $\pm 0.5$ seconds , then check the soldering by measuring the areas cover with solder.	95% of the terminations is to be soldered evenly and continuously.									
9	Leaching (endurance of Ni to soldering heat)	The capacitors are dipped into the solder bath at 260 $\pm 5$ °C for 30 $\pm 1$ seconds , then check the soldering by measuring the areas cover with solder.	95% of the terminations are to be soldered evenly and continuously.									