

Test item	Test conditions	Specifications																														
Capacitance temperature characteristics	<p>Temperature compensating type using the capacitance measured in step 3 as a reference. Then cycling the temperature sequentially from step 1 to 5.</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25±2</td> </tr> <tr> <td>2</td> <td>Min. Operating temp±3</td> </tr> <tr> <td>3</td> <td>25±2</td> </tr> <tr> <td>4</td> <td>Max. operating temp±3</td> </tr> <tr> <td>5</td> <td>25±2</td> </tr> </tbody> </table>	Step	Temperature (°C)	1	25±2	2	Min. Operating temp±3	3	25±2	4	Max. operating temp±3	5	25±2	<table border="1"> <thead> <tr> <th>Char.</th> <th>temp.(°C)</th> <th>ΔC/C(%)</th> </tr> </thead> <tbody> <tr> <td>NPO</td> <td>-55~+125</td> <td>±30PPM/°C</td> </tr> <tr> <td>X7R</td> <td>-55~+125</td> <td>±15%</td> </tr> <tr> <td>X5R</td> <td>-55~+85</td> <td>±15%</td> </tr> <tr> <td>Y5V</td> <td>-30~+85</td> <td>+22%~-82%</td> </tr> <tr> <td>Z5U</td> <td>+10~+85</td> <td>+22%~-56%</td> </tr> </tbody> </table>	Char.	temp.(°C)	ΔC/C(%)	NPO	-55~+125	±30PPM/°C	X7R	-55~+125	±15%	X5R	-55~+85	±15%	Y5V	-30~+85	+22%~-82%	Z5U	+10~+85	+22%~-56%
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Endurance	<p>Apply 200% of the rated voltage for 1000+24/-0 hours at the maximum operating temperature ±3°C</p> <p>Measurement to be made after keeping at room temp. for 24±2hrs of class I part; for 48±2hrs of class II part.</p>	<p>ΔC/C : NPO : ±3% or ±0.3pF max. X7R/X5R : ±12.5% Y5V/Z5U : ±30%</p> <p>Q for NPO : Cap. ≥ 30pF, Q ≥ 350 10pF ≤ Cap. ≤ 30pF, Q ≥ 275+5/2 C Cap. ≤ 10pF, Q ≥ 200+10C</p> <p>D.F : X7R/X5R : Rate Voltage ≥ 50V : ≤ 3.5% Rate Voltage 25V, 16V : ≤ 5.0% Rate Voltage 10V, 6.3V : ≤ 7.5% Y5V/Z5U : Rate Voltage ≥ 25V : ≤ 7.5% Rate Voltage 16V : ≤ 10% (< 1 μF) Rate Voltage 16V : ≤ 12.5% (≥ 1 μF) Rate Voltage ≤ 10V : ≤ 15% I.R : more than 1000MΩ or 50ΩF whichever is smaller No remarkable damage</p>																														
Damp heat	<p>Apply the rated voltage for 1000+24/-0 hours at 40±2°C and 90 to 95% RH.</p> <p>Measurement to be made after keeping at room temp. for 24±2hrs of class I part; for 48±2hrs of class II part.</p>	<p>ΔC/C : NPO : ±7.5% or ±0.75pF max. X7R/X5R : ±12.5% Y5V/Z5U : ±30%</p> <p>Q for NPO : Cap. ≥ 30pF, Q ≥ 200 Cap ≤ 30pF, Q ≥ 100+10/3 C</p> <p>D.F : X7R/X5R : Rate Voltage ≥ 50V : ≤ 3.5% Rate Voltage 25V, 16V : ≤ 5.0% Rate Voltage 10V, 6.3V : ≤ 7.5% Y5V/Z5U : Rate Voltage ≥ 25V : ≤ 7.5% Rate Voltage 16V : ≤ 10% (< 1 μF) Rate Voltage 16V : ≤ 12.5% (≥ 1 μF) Rate Voltage ≤ 10V : ≤ 15% I.R : more than 1000MΩ or 50ΩF whichever is smaller No remarkable damage</p>																														
Adhesion	<p>Solder the capacitor as deflection. Then apply a 10N force in parallel with the test jig for 10±1 sec.</p>	<p>No removal of the terminations or other defects shall occur.</p>																														