

Test Sheet of Monolithic Ceramic Capacitor GRM31(1206/3216) series [High Dielectric Type]

Typical Murata Global Part No	Size (inch/mm)	Temp. Chara.	Cap.Value	Cap.Tol.	Volt.
GRM31CD80G107ME39	1206/3216	X6T	100uF	+/-20%	4V

Data No.:QMC-GR2-0135
DATE: 2016.3.7

Murata Manufacturing Co., Ltd.

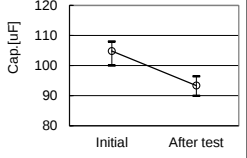
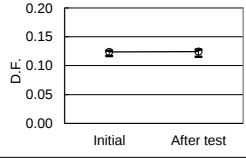
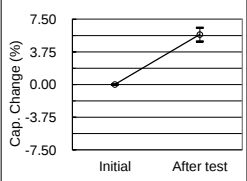
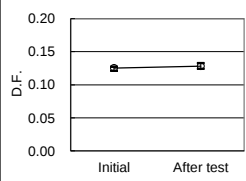
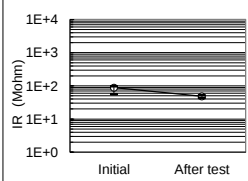
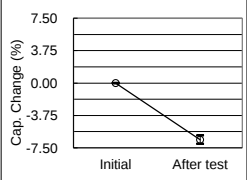
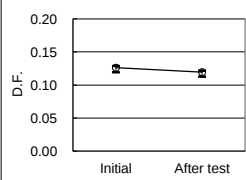
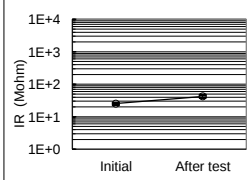
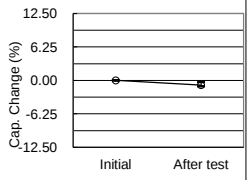
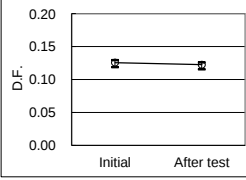
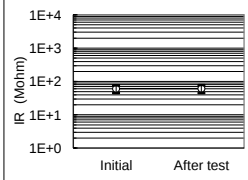
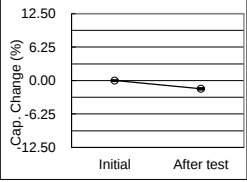
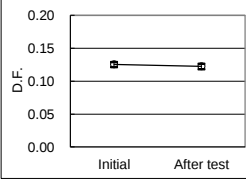
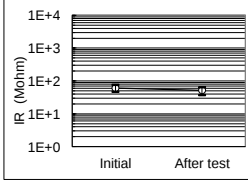
Operating Temperature Range / 使用温度範囲: -55 ~ +105°C

Tested Item/ 試験項目	Tested Condition/ 試験条件	Result/試験結果 (Rejection Number/Sample Number)									
1.Adhesive Strength of Termination/ 固着性	Substrate/基板: Glass-epoxy Pressurization Power / 加圧力: 10N (GRM03: 2N / GRM15,18: 5N) Keeping Time / 保持時間: 10±1s Solder Type / はんだ種類: Sn-3.0Ag-0.5Cu Pressuring Speed/加圧速度: 0.5 mm/sec (GRM03: 0.1mm/sec)	0/10									
2.Vibration/ 振動	Oscillation Frequency/振動周波数: 10Hz to 55Hz to 10Hz for 1min. Total Amplitude/全振幅: 1.5 mm Time/時間: A period of 2 hours in each of 3 mutually perpendicular directions. (Total 6 hours)	0/10									
3.Substrate Bending test/ 耐プリント板曲げ性	Substrate/基板: Glass-epoxy (100mm × 40mm × 1.6mm*) * (t=GRM03/15: 0.8mm) Deflection/たわみ量: 1mm Keeping Time/保持時間: 5±1s Pressure jig/加圧治具: R5mm	0/10									
4.Solderability/ はんだ付け性	Flux/フラックス: Ethanol solution of rosin 25(wt)% Solder/はんだ: Sn-3.0Ag-0.5Cu Solder Temperature/はんだ温度: 245±5°C Immersion Time/浸せき時間: 2s±0.5s Immersion Position/浸せき位置: Covering terminal electrode / 端子電極が隠れるところまで。 Preheat/試験前予熱: 80 to 120°C for 10-30 sec	0/10									
5.Resistance to soldering Heat/ はんだ耐熱性	Solder/はんだ: Sn-3.0Ag-0.5Cu Solder Temperature/はんだ温度: 270±5°C Immersion Time/浸せき時間: 10s±0.5s Immersion Position/浸せき位置: Covering terminal electrode / 端子電極が隠れるところまで。 Preheating/試験前予熱: 120 to 150°C for 60 sec *Preheating for GRM32/43/55 <table border="1"> <tr> <th>Step</th><th>Temperature</th><th>Time</th></tr> <tr> <td>1</td><td>100 to 120°C</td><td>1 min.</td></tr> <tr> <td>2</td><td>170 to 200°C</td><td>1 min.</td></tr> </table>	Step	Temperature	Time	1	100 to 120°C	1 min.	2	170 to 200°C	1 min.	0/10
Step	Temperature	Time									
1	100 to 120°C	1 min.									
2	170 to 200°C	1 min.									
6.Temperature Sudden Change/ 温度急変	1 Cycle condition/1サイクル条件 step 1: Min. Operating Temp.(+0°C,-3°C) , 30min±3min step 2: Ordinary Temp.,2min to 3 min step 3: Max. Operating Temp.(+3°C,-0°C) , 30min±3min step 4: Ordinary Temp.,2min to 3 min Cycle/回数: 5 cycles	0/10									
7.High Temperature High Humidity(Steady)/ 高温高湿(定常)	Temperature/温度: 40°C±2°C Humidity/湿度: 90%(RH) to 95%(RH) Voltage/電圧: The Rated Voltage/定格電圧 Time/時間: 500±12h	0/10									
8.Durability/ 耐久性	Temperature/温度: Max. Operating Temp.±3°C Voltage/電圧: Apply 150% of the rated voltage / 定格電圧 x 150% Time/時間: 1000±12h	0/10									

Note: These tested condition and specification are for the typical item.

Typical Murata Global Part No	Size (inch/mm)	Temp. Chara.	Cap.Value	Cap.Tol.	Volt.
GRM31CD80G107ME39	1206/3216	X6T	100uF	+/-20%	4V

○ AVE. ■ MAX. ■ MIN.

Tested Item/ 試験項目	Confirmed Criteria/ 評価項目	Specification and Result / 規格値 および 試験結果				
1.Adhesive Strength of Termination/ 固着性	Appearance/外観	No defects including no peeling of the termination. 端子電極のはく離及びその他 異常はありません。	OK			
2.Vibration/ 振動	Appearance/外観	No defects /著しい異常はありません。	OK			
	Capacitance/ 静電容量	80 to 120uF				
	D.F.	0.15(max.)				
3.Substrate Bending test/ 耐ﾌﾟﾘﾝﾄ板曲げ性	Appearance/外観	No defects /著しい異常はありません。	OK			
	Capacitance Change/ 静電容量変化率(%)	±10% (within)	OK			
4.Solderability / はんだ付け性	Wetting area/ はんだ付き面積	95% of the termination is to be soldered evenly and continuously. 端子電極の95%以上に切れ 目なくはんだが付着してい ます。	OK			
5.Resistance to Soldering Heat/ はんだ耐熱性	Appearance/外観	No defects /著しい異常はありません。	OK			
	Capacitance Change/ 静電容量変化率(%)	±7.5% (within)				
	D.F.	0.15(max.)				
	IR/絶縁抵抗(MΩ)	5.0E-01(min.)				
	Voltage Proof/ 耐電圧	No defects/異常ありません。	OK			
6.Temperature Sudden Change/ 温度急変	Appearance/外観	No defects /著しい異常はありません。	OK			
	Capacitance Change/ 静電容量変化率(%)	±7.5% (within)				
	D.F.	0.15(max.)				
	IR/絶縁抵抗(MΩ)	5.0E-01(min.)				
	Voltage Proof/ 耐電圧	No defects/異常ありません。	OK			
7.High Temperature High Humidity (Steady)/ 高温高湿 (定常)	Appearance/外観	No defects /著しい異常はありません。	OK			
	Capacitance Change/ 静電容量変化率(%)	±12.5% (within)				
	D.F.	0.2(max.)				
	IR/絶縁抵抗(MΩ)	1.3E-01(min.)				
8.Durability/ 耐久性	Appearance/外観	No defects /著しい異常はありません。	OK			
	Capacitance Change/ 静電容量変化率(%)	±12.5% (within)				
	D.F.	0.2(max.)				
	IR/絶縁抵抗(MΩ)	2.5E-01(min.)				