

Test Sheet of Chip Multilayer Ceramic Capacitor

GRM15(1005M/0402) series [Temperature Compensating Type]

Typical Murata Global Part No	Size (mm/inch)	Temp. Chara.	Cap.Value	Cap.Tol.	Volt.
GRM1555C1H822JE01	1005M/0402	C0G	8200pF	+/-5%	50V

Data No.:QMC-GR1-0192
DATE: 2018.5.28

Murata Manufacturing Co., Ltd.

Operating Temperature Range / 使用温度範囲: -55 ~ +125°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/s (GRM03: 0.1mm/s)	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 h)	0/10									
3.Substrate Bending Test/ 耐プリント板曲げ性	Substrate/基板: Glass-epoxy (100mm × 40mm × 1.6mm*) * GRM03/15: t=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 s	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 s *Preheating for GRM32/43/55 <table border="1"> <thead> <tr> <th>Step</th><th>Temperature</th><th>Time</th></tr> </thead> <tbody> <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> </tbody> </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 200% of the rated voltage / 定格電圧 x 200% Time/時間: 1000±12h	0/10									

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

Typical Murata Global Part No	Size (mm/inch)	Temp. Chara.	Cap.Value	Cap.Tol.	Volt.
GRM1555C1H822JE01	1005M/0402	C0G	8200pF	+/-5%	50V

—○— 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	7790 to 8610pF				
	Q	1000 (min.)				
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(%)	±5% or ±0.5pF (within) (Whichever is larger)	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(%)	±2.5% (within)				
	Q	1000(min.)				
	IR/絶縁抵抗(MΩ)	10000 (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(%)	±2.5% (within)				
	Q	1000(min.)				
	IR/絶縁抵抗(MΩ)	10000 (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(%)	±7.5% (within)				
	Q	200(min.)				
	IR/絶縁抵抗(MΩ)	500 (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(%)	±3% (within)				
	Q	350(min.)				
	IR/絶縁抵抗(MΩ)	1000 (min.)				