

SPECIFICATION

- Supplier : Samsung electro-mechanics
- Product : Multi-layer Ceramic Capacitor
- Samsung P/N: **CL43A107MQLNNE**
- Description : **CAP, 100 μ F, 6.3V, \pm 20%, X5R, 1812**

A. Samsung Part Number

CL **43** **A** **107** **M** **Q** **L** **N** **N** **N** **E**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Series	Samsung Multi-layer Ceramic Capacitor									
② Size	1812 (inch code)	L: 4.50 \pm 0.40mm		W: 3.20 \pm 0.30mm						
③ Dielectric	X5R	⑧ Inner electrode		Ni						
④ Capacitance	100 μ F	Termination		Cu						
⑤ Capacitance tolerance	\pm 20 %	Plating		Sn 100% (Pb Free)						
⑥ Rated Voltage	6.3 V	⑨ Product		Normal						
⑦ Thickness	3.20 \pm 0.30mm	⑩ Special		Reserved for future use						
		⑪ Packaging		Embossed Type, 7" reel						

B. Samsung Reliability Test and Judgement condition

	Judgement	Test condition
Capacitance	Within specified tolerance	120Hz \pm 20% 0.5 \pm 0.1Vrms
Tan δ (DF)	0.1 max.	
Insulation Resistance	10,000Mohm or 100Mohm μ F Whichever is Smaller	Rated Voltage 60~120 sec.
Appearance	No abnormal exterior appearance	Microscope (10)
Withstanding Voltage	No dielectric breakdown or mechanical breakdown	250% of the rated voltage
Temperature Characteristics	X5R (From -55 $^{\circ}$ C to 85 $^{\circ}$ C, Capacitance change should be within \pm 15%)	
Adhesive Strength of Termination	No peeling shall be occur on the terminal electrode	500g \cdot F, for 10 \pm 1 sec.
Bending Strength	Capacitance change : within \pm 12.5%	Bending to the limit (1mm) with 1.0mm/sec.
Solderability	More than 75% of terminal surface is to be soldered newly	SnAg3.0Cu0.5 solder 245 \pm 5 $^{\circ}$ C, 3 \pm 0.3sec. (preheating : 80~120 $^{\circ}$ C for 10~30sec.)
Resistance to Soldering heat	Capacitance change : within \pm 7.5% Tan δ , IR : initial spec.	Solder pot : 270 \pm 5 $^{\circ}$ C, 10 \pm 1sec.

	Judgement	Test condition
Vibration Test	Capacitance change : within $\pm 5\%$ Tan δ , IR : initial spec.	Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours \times 3 direction (x, y, z)
Moisture Resistance	Capacitance change : within $\pm 12.5\%$ Tan δ 0.125 max IR : 12.5M Ω · μ F or Over	With rated voltage 40 \pm 2 $^{\circ}$ C, 90~95%RH, 500+12/-0hrs
High Temperature Resistance	Capacitance change : within $\pm 12.5\%$ Tan δ 0.125 max IR : 25M Ω · μ F or Over	With 150% of the rated voltage Max. operating temperature 1000+48/-0hrs
Temperature Cycling	Capacitance change : within $\pm 7.5\%$ Tan δ , IR : initial spec.	1 cycle condition Min. operating temperature \rightarrow 25 $^{\circ}$ C \rightarrow Max. operating temperature \rightarrow 25 $^{\circ}$ C 5 cycle test

C. Recommended Soldering method :

Reflow (Reflow Peak Temperature : 260+0/-5 $^{\circ}$ C, 10sec. Max)

* For the more detail Specification, Please refer to the Samsung MLCC catalogue.