

SPECIFICATION

- Supplier : Samsung electro-mechanics
- Product : Multi-layer Ceramic Capacitor

- Part Number : **CL21C101JBANNND**
- Description : **CAP, 100 μ F, 50V, \pm 5%, C0G, 0805**

A. Samsung Part Number

CL 21 C 101 J B A N N N D
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Series	Samsung Multi-layer Ceramic Capacitor		
② Size	0805 (inch code)	L: 2.0 \pm 0.1 mm	W: 1.25 \pm 0.1 mm
③ Dielectric	C0G	⑧ Inner electrode	Ni
④ Capacitance	100 μ F	Termination	Cu
⑤ Capacitance tolerance	\pm 5 %	Plating	Sn 100% (Pb Free)
⑥ Rated Voltage	50 V	⑨ Product	Normal
⑦ Thickness	0.65 \pm 0.1 mm	⑩ Special	Reserved for future use
		⑪ Packaging	Cardboard Type, 13" reel

B. Samsung Reliability Test and Judgement condition

	Performance	Test condition
Capacitance	Within specified tolerance	1MHz \pm 10% 0.5~5Vrms
Q	1000 min	
Insulation Resistance	10,000Mohm or 500Mohm $\cdot\mu$ F Whichever is Smaller	Rated Voltage 60~120 sec.
Appearance	No abnormal exterior appearance	Microscope (\times 10)
Withstanding Voltage	No dielectric breakdown or mechanical breakdown	300% of the rated voltage
Temperature Characterisitcs	C0G (From -55 $^{\circ}$ C to 125 $^{\circ}$ C, Capacitance change should be within \pm 30PPM/ $^{\circ}$ C)	
Adhesive Strength of Termination	No peeling shall be occur on the terminal electrode	500g-F, for 10 \pm 1 sec.
Bending Strength	Capacitance change : within \pm 5% or \pm 0.5 μ F whichever is larger	Bending to the limit (1mm) with 1.0mm/sec.
Solderability	More than 75% of terminal surface is to be soldered newly	1) Sn63Pb37 solder 235 \pm 5 $^{\circ}$ C, 5 \pm 0.5sec. 2) 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 2.5% or \pm 0.25 μ F whichever is larger Tan δ , IR : initial spec.	Solder pot : 270 \pm 5 $^{\circ}$ C, 10 \pm 1sec.

	Performance	Test condition
Vibration Test	Capacitance change : within $\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger Tan δ , IR : initial spec.	Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours \times 3 direction (x, y, z)
Humidity	Capacitance change : within $\pm 5\%$ or $\pm 0.5\text{pF}$ whichever is larger Q: 350 min IR : 1000Mohm or 50Mohm $\cdot \mu\text{F}$ Whichever is Smaller	40 \pm 2 $^{\circ}\text{C}$, 90~95%RH, 500+12/-0hrs
Moisture Resistance	Capacitance change : within $\pm 7.5\%$ or $\pm 0.75\text{pF}$ whichever is larger Q : 200 min IR : 500Mohm or 25Mohm $\cdot \mu\text{F}$ Whichever is Smaller	With rated voltage 40 \pm 2 $^{\circ}\text{C}$, 90~95%RH, 500+12/-0hrs
High Temperature Resistance	Capacitance change : within $\pm 3\%$ or $\pm 0.3\text{pF}$ whichever is larger Q : 350 min IR : 1000Mohm or 50Mohm $\cdot \mu\text{F}$ Whichever is Smaller	With 200% of the rated voltage Max. operating temperature 1000+48/-0hrs
Temperature Cycling	Capacitance change : within $\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger Tan δ , IR : initial spec.	1 cycle condition Min. operating temperatur \rightarrow 25 $^{\circ}\text{C}$ \rightarrow Max. operating temperature \rightarrow 25 $^{\circ}\text{C}$ 5 cycle test

C. Recommended Soldering method :

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

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