



SPECIFICATION

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

- Samsung P/N : [CL21C822JBFNNNE](#)
- Description : CAP, 8.2nF, 50V, ±5%, C0G, 0805

A. Samsung Part Number

CL 21 C 822 J B F N N N E
 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 ± 0.1 mm			W: 1.25 ± 0.1 mm			
③ Dielectric	C0G			⑧ Inner electrode	Ni			Termination		
④ Capacitance	8.2 nF			⑨ Product	Cu			Plating		
⑤ Capacitance tolerance	±5 %			⑩ Special	Sn 100% (Pb Free)			Normal		
⑥ Rated Voltage	50 V			⑪ Packaging	Reserved for future use			Embossed Type, 7"reel(2,000ea)		
⑦ Thickness	1.25 ± 0.1 mm									

B. Samsung Reliability Test and Judgement condition

	Performance	Test condition
Capacitance	Within specified tolerance	1kHz±10% 0.5~5Vrms
Q	1000 min	
Insulation Resistance	More than 500Mohm·μF	Rated Voltage 60~120 sec.
Appearance	No abnormal exterior appearance	Visual inspection
Withstanding Voltage	No dielectric breakdown or mechanical breakdown	300% of the rated voltage
Temperature Characteristics	C0G (From -55 °C to 125 °C, Capacitance change should be within ±30PPM/ °C)	
Adhesive Strength of Termination	No peeling shall be occur on the terminal electrode	500g·F, for 10±1 sec.
Bending Strength	Capacitance change : within ±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±5 °C, 3±0.3sec. (preheating : 80~120 °C for 10~30sec.)
Resistance to Soldering heat	Capacitance change : within ±2.5% Tan δ, IR : initial spec.	Solder pot : 270±5 °C, 10±1sec.

	Performance	Test condition
Vibration Test	Capacitance change : within $\pm 2.5\%$ 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 $\pm 7.5\%$ Q : 200 min IR : More than $25\text{M}\Omega \cdot \mu\text{F}$	With rated voltage 40 $\pm 2^\circ\text{C}$, 90~95%RH, 500 +12/-0 hours
High Temperature Resistance	Capacitance change : within $\pm 3\%$ Q : 350 min IR : More than $50\text{M}\Omega \cdot \mu\text{F}$	With 200% of the rated voltage Max. operating temperature 1000+48/-0 hours
Temperature Cycling	Capacitance change : within $\pm 2.5\%$ Tan δ , IR : initial spec.	1 cycle condition Min. operating temperature $\rightarrow 25^\circ\text{C}$ \rightarrow Max. operating temperature $\rightarrow 25^\circ\text{C}$ 5 cycles test

C. Recommended Soldering method :

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

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