

SPECIFICATION

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

- Samsung P/N : **CL31F104ZBCNNNC**
- Descriptionnt : **CAP, 100nF, -20+80%, 50V, Y5V, 1206**

A. Samsung Part Number

CL **31** **F** **104** **Z** **B** **C** **N** **N** **N** **C**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Series	Samsung Multi-layer Ceramic Capacitor									
② Size	1206	(inch code)	L: 3.2	± 0.15	mm	W:	1.6	± 0.15	mm	
③ Dielectric	Y5V					⑧ Inner electrode	Ni			
④ Capacitance	100	nF				Termination	Cu			
⑤ Capacitance tolerance	-20/+80	%				Plating	Sn 100% (Pb Free)			
⑥ Rated Voltage	50	V				⑨ Product	Normal			
⑦ Thickness	0.85	± 0.15	mm			⑩ Special	Reserved for future use			
						⑪ Packaging	Cardboard Type, 7" reel			

B. Samsung Reliability Test and Judgement condition

	Performance	Test condition
Capacitance	Within specified tolerance	1kHz±10% 1.0±0.2Vrms
Tan δ (DF)	0.05 max.	
Insulation Resistance	10,000Mohm or 500Mohm·μF 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 Characterisitcs	Y5V (From -30℃ to 85℃, Capacitance change should be within -82~+22%)	
Adhesive Strength of Termination	No peeling shall be occur on the terminal electrode	500g·F, for 10±1 sec.
Bending Strength	Capacitance change : within ±30%	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℃, 3±0.3sec. (preheating : 80~120℃ for 10~30sec.)
Resistance to Soldering heat	Capacitance change : within ±20% Tan δ, IR : initial spec.	Solder pot : 270±5℃, 10±1sec.

	Performance	Test condition
Vibration Test	Capacitance change : within $\pm 20\%$ 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 $\pm 30\%$ Tan δ : 0.09 max IR : 500Mohm or 25Mohm $\cdot \mu F$ Whichever is Smaller	With rated voltage 40 $\pm$ 2 $^{\circ}$ C, 90~95%RH, 500+12/-0hrs
High Temperature Resistance	Capacitance change : within $\pm 30\%$ Tan δ : 0.09 max IR : 1000Mohm or 50Mohm $\cdot \mu F$ Whichever is Smaller	With 200% of the rated voltage Max. operating temperature 1000+48/-0hrs
Temperature Cycling	Capacitance change : within $\pm 20\%$ 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.