

SPECIFICATION

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

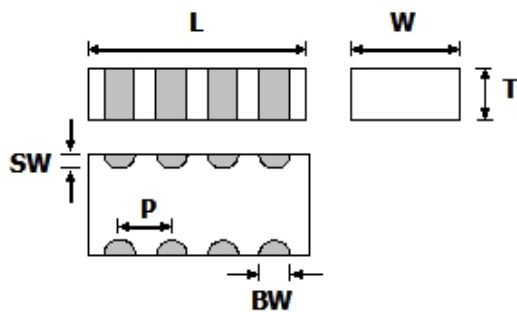
- Samsung P/N : **CL21B104MO5NJNC**
- Description : **CAP, 100nF, 16V, ±20%, X7R, 0805**

A. Samsung Part Number

CL 21 B 104 M O 5 N J N C
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Series	Samsung Multi-layer Ceramic Capacitor		
② Size	0805 (inch code)	L: 2.03 ± 0.2 mm	W: 1.27 ± 0.2 mm
③ Dielectric	X7R	⑧ Inner electrode Termination	Ni Cu
④ Capacitance	100 nF	Plating	Sn 100% (Pb Free)
⑤ Capacitance tolerance	±20 %	⑨ Product	SLIC
⑥ Rated Voltage	16 V	⑩ Special	Reserved for future use
⑦ Thickness	0.5 +0.05/-0.1 mm	⑪ Packaging	Cardboard Type, 7" reel

B. Structure and Dimensions



Samsung P/N	Dimension(mm)					
	L	W	T	BW	SW	P
CL21B104MO5NJNC	2.3±0.2	1.27±0.2	0.5+0.05/-0.1	0.254±0.1	0.18+0.25/-0.08	0.5±0.1

C. 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	More than 500Mohm·μF	Rated Voltage 60~120 sec.
Appearance	No abnormal exterior appearance	Visual inspection
Withstanding Voltage	No dielectric breakdown or mechanical breakdown	250% of the rated voltage
Temperature Characteristics	X7R (From -55℃ to 125℃, Capacitance change should be within ±15%)	
Adhesive Strength of Termination	No peeling shall be occur on the terminal electrode	500g·F, for 10±1 sec.
Bending Strength	Capacitance change : within ±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±5℃, 3±0.3sec. (preheating : 80~120℃ for 10~30sec.)
Resistance to Soldering heat	Capacitance change : within ±7.5% Tan δ, IR : initial spec.	Solder pot : 270±5℃, 10±1sec.
Vibration Test	Capacitance change : within ±20% Tan δ, IR : initial spec.	Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours × 3 direction (x, y, z)
Moisture Resistance	Capacitance change : within ±12.5% Tan δ : 0.075 max IR : More than 25MΩ·μF	With rated voltage 40±2℃, 90~95%RH, 500+12/-0 hours
High Temperature Resistance	Capacitance change : within ±12.5% Tan δ : 0.075 max IR : More than 50MΩ·μF	With 200% of the rated voltage Max. operating temperature 1000+48/-0 hours
Temperature Cycling	Capacitance change : within ±7.5% Tan δ, IR : initial spec.	1 cycle condition Min. operating temperature → 25℃ → Max. operating temperature → 25℃ 5 cycles test

D. Recommended Soldering method :

Reflow (Reflow Peak Temperature : 260+0/-5℃, 10sec. Max)

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