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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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SPECIFICATION

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

- Samsung P/N : **CL14A105MO5NANC**
- Description : **CAP, 1 μ F, 16V, \pm 20%, X5R, 0504**

A. Samsung Part Number

CL 14 A 105 M O 5 N A N C
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Series	Samsung Multi-layer Ceramic Capacitor		
② Size	0504 (inch code)	L: 1.37 \pm 0.15 mm	W: 1.0 \pm 0.15 mm
③ Dielectric	X5R	⑧ Inner electrode	Ni
④ Capacitance	1 μ F	Termination	Cu
⑤ Capacitance tolerance	\pm 20 %	Plating	Sn 100% (Pb Free)
⑥ Rated Voltage	16 V	⑨ Product	Array(2-element)
⑦ Thickness	0.5 \pm 0.05 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 \pm 10% 1.0 \pm 0.2Vrms
Tan δ (DF)	0.1 max.	
Insulation Resistance	10,000Mohm or 100Mohm $\cdot\mu$ 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	250% of the rated voltage
Temperature Characterisitcs	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	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 7.5% Tan δ , IR : initial spec.	Solder pot : 270 \pm 5 $^{\circ}$ C, 10 \pm 1sec.

	Performance	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)
Humidity	Capacitance change : within $\pm 12.5\%$ Tan δ : 0.125 max IR : 25M $\Omega \cdot \mu F$ or Over	40 ± 2 °C, 90~95%RH, 500+12/-0hrs
Moisture Resistance	Capacitance change : within $\pm 12.5\%$ Tan δ : 0.125 max IR : 12.5M $\Omega \cdot \mu F$ or Over	With rated voltage 40 ± 2 °C, 90~95%RH, 500+12/-0hrs
High Temperature Resistance	Capacitance change : within $\pm 12.5\%$ Tan δ : 0.125 max IR : 25M $\Omega \cdot \mu F$ or Over	With 100% 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°C \rightarrow Max. operating temperature \rightarrow 25°C 5 cycle test

C. Recommended Soldering method :

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

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