



# SPECIFICATION

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

- Samsung P/N : **CL10B472KC8NNNC**
- Description : **CAP, 4.7nF, 100V, ±10%, X7R, 0603**

## A. Samsung Part Number

**CL 10 B 472 K C 8 N N N C**  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① <b>Series</b>	Samsung Multi-layer Ceramic Capacitor		
② <b>Size</b>	0603 (inch code)	L: 1.6 ± 0.1 mm	W: 0.8 ± 0.1 mm
③ <b>Dielectric</b>	X7R	⑧ <b>Inner electrode</b>	Ni
④ <b>Capacitance</b>	4.7 nF	<b>Termination</b>	Cu
⑤ <b>Capacitance tolerance</b>	±10 %	<b>Plating</b>	Sn 100% (Pb Free)
⑥ <b>Rated Voltage</b>	100 V	⑨ <b>Product</b>	Normal
⑦ <b>Thickness</b>	0.8 ± 0.1 mm	⑩ <b>Special</b>	Reserved for future use
		⑪ <b>Packaging</b>	Cardboard Type, 7" reel

## B. Samsung Reliability Test and Judgement condition

	Performance	Test condition
<b>Capacitance</b>	Within specified tolerance	1kHz±10% 1.0±0.2Vrms
<b>Tan δ (DF)</b>	0.025 max.	
<b>Insulation Resistance</b>	10,000Mohm or 500Mohm·μF Whichever is Smaller	Rated Voltage 60~120 sec.
<b>Appearance</b>	No abnormal exterior appearance	Microscope (×10)
<b>Withstanding Voltage</b>	No dielectric breakdown or mechanical breakdown	200% of the rated voltage
<b>Temperature Characterisitcs</b>	X7R (From -55℃ to 125℃, Capacitance change should be within ±15%)	
<b>Adhesive Strength of Termination</b>	No peeling shall be occur on the terminal electrode	500g-F, for 10±1 sec.
<b>Bending Strength</b>	Capacitance change : within ±12.5%	Bending to the limit (1mm) with 1.0mm/sec.
<b>Solderability</b>	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.)
<b>Resistance to Soldering heat</b>	Capacitance change : within ±7.5% Tan δ, IR : initial spec.	Solder pot : 270±5℃, 10±1sec.

	Performance	Test condition
<b>Vibration Test</b>	Capacitance change : within $\pm 5\%$ Tan $\delta$ , IR : initial spec.	Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours $\times$ 3 direction (x, y, z)
<b>Moisture Resistance</b>	Capacitance change : within $\pm 12.5\%$ Tan $\delta$ : 0.05 max 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
<b>High Temperature Resistance</b>	Capacitance change : within $\pm 12.5\%$ Tan $\delta$ : 0.05 max IR : 1000Mohm or 50Mohm $\cdot \mu\text{F}$ Whichever is Smaller	With 200% of the rated voltage Max. operating temperature 1000+48/-0hrs
<b>Temperature Cycling</b>	Capacitance change : within $\pm 7.5\%$ Tan $\delta$ , IR : initial spec.	1 cycle condition Min. operating temperature $\rightarrow$ 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.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Multilayer Ceramic Capacitors MLCC - SMD/SMT category](#):*

*Click to view products by [Samsung manufacturer](#):*

Other Similar products are found below :

[M39014/01-1467](#) [M39014/02-1218V](#) [M39014/02-1225V](#) [M39014/02-1262V](#) [M39014/02-1301](#) [M39014/22-0631](#) [1210J5000102JCT](#)  
[1210J2K00102KXT](#) [1210J5000103KXT](#) [1210J5000223KXT](#) [D55342E07B379BR-TR](#) [D55342E07B523DR-T/R](#) [1812J1K00103KXT](#)  
[1812J1K00473KXT](#) [1812J2K00680JCT](#) [1812J4K00102MXT](#) [1812J5000102JCT](#) [1812J5000103JCT](#) [1812J5000682JCT](#) [NIN-FB391JTRF](#)  
[NIN-FC2R7JTRF](#) [NPIS27H102MTRF](#) [C1206C101J1GAC](#) [C1608C0G1E472JT000N](#) [C2012C0G2A472J](#) [2220J2K00101JCT](#)  
[KHC201E225M76N0T00](#) [1812J1K00222JCT](#) [1812J2K00102KXT](#) [1812J2K00222KXT](#) [1812J2K00472KXT](#) [2-1622820-7-CUT-TAPE](#)  
[2220J3K00102KXT](#) [2225J2500824KXT](#) [CCR07CG103KM](#) [CGA2B2C0G1H010C](#) [CGA2B2C0G1H040C](#) [CGA2B2C0G1H050C](#)  
[CGA2B2C0G1H060D](#) [CGA2B2C0G1H070D](#) [CGA2B2C0G1H151J](#) [CGA2B2C0G1H1R5C](#) [CGA2B2C0G1H2R2C](#) [CGA2B2C0G1H3R3C](#)  
[CGA2B2C0G1H680J](#) [CGA2B2C0G1H6R8D](#) [CGA2B2X8R1H221K](#) [CGA2B2X8R1H472K](#) [CGA3E1X7R1C474K](#)  
[CGA3E2C0G1H561JT0Y0N](#)