

## **Excellent Integrated System Limited**

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[Samsung Electro-Mechanics America, Inc.](#)  
[CL10CR68BB8NNNC](#)

For any questions, you can email us directly:

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**SAMSUNG**  
**ELECTRO-MECHANICS**



## SPECIFICATION

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

- Samsung P/N : **CL10CR68BB8NNNC**
- Description : **CAP, 0.68pF, 50V, ±0.1pF, C0G, 0603**

### A. Samsung Part Number

**CL 10 C R68 B B 8 N N N C**  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Series	Samsung Multi-layer Ceramic Capacitor									
② Size	0603 (inch code)			L: 1.6 ± 0.1 mm			W: 0.8 ± 0.1 mm			
③ Dielectric	C0G	⑧ Inner electrode	Ni							
④ Capacitance	0.68 pF	Termination	Cu							
⑤ Capacitance tolerance	±0.1 pF	Plating	Sn 100% (Pb Free)							
⑥ Rated Voltage	50 V	⑨ Product	Normal							
⑦ Thickness	0.8 ± 0.1 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	1MHz±10% 0.5~5Vrms
Q	413.6 min	
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	300% of the rated voltage
Temperature Characterisitcs	C0G (From -55 °C to 125 °C, Capacitance change shoud 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% or ±0.5pF whichever is larger	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% or ±0.25pF whichever is larger Tan δ, IR : initial spec.	Solder pot : 270±5 °C, 10±1sec.

	<b>Performance</b>	<b>Test condition</b>
<b>Vibration Test</b>	Capacitance change : within $\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger 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 $\pm 7.5\%$ or $\pm 0.75\text{pF}$ whichever is larger Q : 102.27 min IR : 500Mohm or $25\text{Mohm} \cdot \mu\text{F}$ Whichever is Smaller	With rated voltage 40 $\pm 2$ °C, 90~95%RH, 500+12/-0hrs
<b>High Temperature Resistance</b>	Capacitance change : within $\pm 3\%$ or $\pm 0.3\text{pF}$ whichever is larger Q : 206.8 min IR : 1000Mohm or $50\text{Mohm} \cdot \mu\text{F}$ Whichever is Smaller	With 200% of the rated voltage Max. operating temperature 1000+48/-0hrs
<b>Temperature Cycling</b>	Capacitance change : within $\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger Tan $\delta$ , 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 $\pm 0/-5$  °C, 10sec. Max )

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