



# **SPECIFICATION**

(Reference sheet)

• Supplier : Samsung electro-mechanics • Samsung P/N : CL10C100CB8NNND

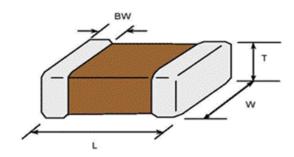
• Product : Multi-layer Ceramic Capacitor • Description : CAP, 10pF, 50V, ± 0.25pF, C0G, 0603

## A. Samsung Part Number

<u>CL</u> <u>10</u> <u>C</u> <u>100</u> <u>C</u> <u>B</u> <u>8</u> <u>N</u> <u>N</u> <u>N</u> <u>D</u> ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

1	Series	Samsung Multi-layer Ceramic Capacitor				
2	Size	0603 (inch code)	L: 1.60 ± 0.10 mm	W: 0.80 ± 0.10 mm		
3	Dielectric	C0G	8 Inner electrode	Ni		
4	Capacitance	<b>10</b> pF	Termination	Cu		
(5)	Capacitance	± 0.25 pF	Plating	Sn 100% (Pb Free)		
	tolerance		Product	Normal		
6	Rated Voltage	50 V	<b>®</b> Special	Reserved for future use		
7	Thickness	0.80 ± 0.10 mm	① Packaging	Cardboard Type, 13" reel		

#### B. Structure and dimension



Samsung P/N	Dimension(mm)			
(Lead Free)	L	W	Т	BW
CL10C100CB8NNND	1.60 ± 0.10	0.80 ± 0.10	0.80 ± 0.10	0.30 ± 0.20

#### C. Samsung Reliability Test and Judgement condition

Considered Within applified televenes						
Capacitance   Within specified tolerance   1 Mb±10% 0.5~5	1Mb±10% 0.5~5Vrms					
Q 600 min	]					
Insulation 10,000Mohm or 500Mohm×μF Rated Voltage 60~12	20 sec.					
Resistance Whichever is smaller						
Appearance No abnormal exterior appearance Microscope ('10)	Microscope ('10)					
Withstanding No dielectric breakdown or 300% of the rated volume	300% of the rated voltage					
Voltage mechanical breakdown						
Temperature C0G						
<b>Characteristics</b> (From -55 °C to 125 °C, Capacitance change should be within ±30PPM/ °C	(From -55℃ to 125℃, Capacitance change should be within ±30PPM/℃)					
Adhesive Strength No peeling shall be occur on the 500g×F, for 10±1 sec.						
of Termination terminal electrode						
Bending Strength Capacitance change : Bending to the limit (1mm)	Bending to the limit (1mm)					
within ±5% or ±0.5pF whichever is larger with 1.0mm/sec.	with 1.0mm/sec.					
Solderability More than 75% of terminal surface SnAg3.0Cu0.5 solder	SnAg3.0Cu0.5 solder					
is to be soldered newly 245±5°C, 3±0.3sec.	245±5℃, 3±0.3sec.					
(preheating : 80~120 ℃ for	(preheating : 80~120 ℃ for 10~30sec.)					
Resistance to Capacitance change : Solder pot : 270±5°C, 10±	1sec.					
Soldering heat within ±2.5% or ±0.25pF whichever is larger						
Tan δ, IR : initial spec.						
Vibration Test         Capacitance change :         Amplitude : 1.5mm	Amplitude : 1.5mm					
within ±2.5% or ±0.25pF whichever is larger From 10Hz to 55Hz (return	From 10Hz to 55Hz (return : 1min.)					
Tan δ, IR : initial spec. 2hours ´ 3 direction (x, y, z	2hours ´3 direction (x, y, z)					
Moisture Capacitance change : With rated voltage						
Resistance within ±7.5% or ±0.75pF whichever is larger 40±2℃, 90~95%RH, 500+	40±2℃, 90~95%RH, 500+12/-0hrs					
Q: 133.33 min						
IR : 500Mohm or 25Mohm × $\mu$ F						
Whichever is smaller						
High Temperature Capacitance change : With 200% of the rate	d voltage					
Resistance within ±3% or ±0.3 pF whichever is larger Max. operating temperature	Max. operating temperature					
Q: 300 min 1000+48/-0hrs						
IR : 1,000Mohm or 50Mohm × $\mu$ F						
Whichever is smaller						
Temperature Capacitance change : 1 cycle condition	1 cycle condition					
	Min. operating temperature → 25°C					
5 cycle test						

<sup>\*</sup> The reliability test condition can be replaced by the corresponding accelerated test condition.

## D. Recommended Soldering method:

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



A Product specifications included in the specifications are effective as of March 1, 2013.

Please be advised that they are standard product specifications for reference only.

We may change, modify or discontinue the product specifications without notice at any time.

So, you need to approve the product specifications before placing an order.

Should you have any question regarding the product specifications,

please contact our sales personnel or application engineers.

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The products listed in this Specification sheet are **NOT** designed and manufactured for any use and applications set forth below.

Please note that any misuse of the products deviating from products specifications or information provided in this Spec sheet may cause serious property damages or personal injury.

We will **NOT** be liable for any damages resulting from any misuse of the products, specifically including using the products for high reliability applications as listed below.

If you have any questions regarding this 'Limitation of Use and Application', you should first contact our sales personnel or application engineers.

- ① Aerospace/Aviation equipment
- ② Automotive or Transportation equipment (vehicles, trains, ships, etc)
- 3 Medical equipment
- Military equipment
- 5 Disaster prevention/crime prevention equipment
- Any other applications with the same as or similar complexity or reliability to the applications set forth above.