SPECIFICATION

(Reference sheet)

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

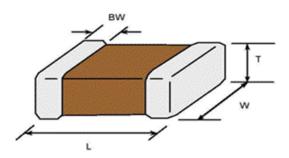
A. Samsung Part Number

· Samsung P/N : · Description :

CL10C0R5CB8NNNC CAP, 0.5pF, 50V, ± 0.25pF, C0G, 060;

		<u>CL</u> <u>10</u> ① ②	<u>C 0R5</u> 3 4 (<u>N</u> 9 10	<mark>C</mark> 10	
1	Series	Samsung Multi-layer Ceramic Capacitor					
2	Size	0603 (inch code)	L: 1.6	L: 1.60 ± 0.10 mm W:		0.80 ± 0.10 mm	
3	Dielectric	C0G		Inner electrode		Ni	
4	Capacitance	0.5 pF		Termination		Cu	
5	Capacitance	± 0.25 pF		Plating		Sn 100% (Pb Free)	
	tolerance		(Product		Normal	
6	Rated Voltage	50 V	0	Special		Reserved for future use	
\bigcirc	Thickness	0.80 ± 0.10 mm	I	Packaging		Cardboard Type, 7" reel	

B. Structure and dimension



Samsung P/N	Dimension(mm)					
(Lead Free)	L	W	Т	BW		
CL10C0R5CB8NNNC	1.60 ± 0.10	0.80 ± 0.10	0.80 ± 0.10	0.30 ± 0.20		





C. Samsung Reliability Test and Judgement condition

	Performance	Test condition					
Capacitance Within specified tolerance		1Mb±10% 0.5~5Vrms					
Q 410 min							
Insulation	10,000Mohm or 500Mohm× <i>μ</i> F	Rated Voltage 60~120 sec.					
Resistance	Whichever is smaller						
Appearance	No abnormal exterior appearance	Microscope ('10)					
Withstanding	No dielectric breakdown or	300% of the rated voltage					
Voltage	mechanical breakdown						
Temperature C0G							
Characteristics	(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)					
	within $\pm 5\%$ or ± 0.5 pF whichever is larger	with 1.0mm/sec.					
Solderability	More than 75% of terminal surface	SnAg3.0Cu0.5 solder					
	is to be soldered newly	245±5℃, 3±0.3sec.					
		(preheating : 80~120 $^\circ C$ for 10~30sec.)					
Resistance to	Canacitanaa ahanga :	Solder pet: $270+5^{\circ}$, $10+1000$					
	Capacitance change :	Solder pot : 270±5℃, 10±1sec.					
Soldering heat	within $\pm 2.5\%$ or ± 0.25 pF whichever is larger						
Vibration Test	Tan δ, IR : initial spec.	Amplitude : 1.5mm					
VIDIALION TEST	Capacitance change :						
	within $\pm 2.5\%$ or ± 0.25 whichever is larger	From 10Hz to 55 Hz (return : 1min.)					
Moisture	Tan δ, IR : initial spec.	2hours ' 3 direction (x, y, z)					
	Capacitance change :	With rated voltage					
Resistance	within $\pm 7.5\%$ or ± 0.75 whichever is larger	40±2℃, 90~95%RH, 500+12/-0hrs					
	Q: 101.67 min						
	IR : 500Mohm or 25Mohm × μ F						
Likeh Temperatura	Whichever is smaller	With 2000/ of the roted voltage					
High Temperature	Capacitance change :	With 200% of the rated voltage					
Resistance	within $\pm 3\%$ or ± 0.3 pF whichever is larger	Max. operating temperature					
	Q: 205 min	1000+48/-0hrs					
	IR : 1,000Mohm or 50Mohm × μF						
Tammanata	Whichever is smaller	1 evelo condition					
Temperature	Capacitance change :	1 cycle condition					
Cycling	within $\pm 2.5\%$ or $\pm 0.25pF$ whichever is larger	Min. operating temperature $\rightarrow 25^{\circ}$					
	Tan δ, IR : initial spec.	\rightarrow Max. operating temperature \rightarrow 25 °C					
		5 ovele test					
		5 cycle test					

* The reliability test condition can be replaced by the corresponding accelerated test condition.

D. Recommended Soldering method :

Reflow (Reflow Peak Temperature : 260+0/-5°C, 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.

- Disclaimer & Limitation of Use and Application -

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.

- Aerospace/Aviation equipment
- ② Automotive or Transportation equipment (vehicles, trains, ships, etc)
- 3 Medical equipment
- *④ 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.