



SPECIFICATION

- Supplier : Samsung electro-mechanics
- Product : Multi-layer Ceramic Capacitor
- Samsung P/N : CL05C010BB5NNNC
- Description : CAP, 1pF, 50V, ±0.1pF, C0G, 0402

A. Samsung Part Number

	<u>CL</u>	<u>05</u>	<u>C 010</u>	<u>B</u>	<u>B</u>	<u>5</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>c</u>
	1	2	3 4	(5)	6	1	(8)	9	10	1
1 Series	Samsung Multi-	ayer Cer	ramic Cap	acito	or					
 Size 	0402 (inch o	-			± 0.0)5	mm		W:	$0.5 \pm 0.05 mm$
③ Dielectric	C0G			(8)	Inne	r ele	ctroc	le		Ni
Capacitance	1 pF			Ŭ	Tern					Cu
⑤ Capacitance	±0.1 pF				Plati	ing				Sn 100% (Pb Free)
tolerance				9	Proc	luct				Normal
Rated Voltage	50 V			10	Spe	cial				Reserved for future use
⑦ Thickness	0.5 ± 0.05	mm		1	Pacl	kagir	ng			Cardboard Type, 7" reel

B. Samsung Reliablility Test and Judgement condition

	Performance	Test condition					
Capacitance	Within specified tolerance	1M±10% 0.5~5Vrms					
Q	420 min						
Insulation	10,000Mohm or 500Mohm ⋅ μF	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						
Characterisitcs	(From -55 $^\circ\!\!\!\!\mathrm{C}$ to 125 $^\circ\!\!\!\mathrm{C}$, Capacitance change shoud be within ±30PPM/ $^\circ\!\!\!\mathrm{C}$)						
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 ℃ for 10~30sec.)					
Resistance to	Capacitance change :	Solder pot : 270±5℃, 10±1sec.					
Soldering heat	within $\pm 2.5\%$ or ± 0.25 pF whichever is larger						
	Tan δ, IR : initial spec.						

	Performance	Test condition					
Vibration Test	Capacitance change :	Amplitude : 1.5mm					
	within $\pm 2.5\%$ or ± 0.25 pF whichever is larger	From 10Hz to 55Hz (return : 1min.)					
	Tan δ, IR : initial spec.	2hours \times 3 direction (x, y, z)					
Moisture	Capacitance change :	With rated voltage					
Resistance	within $\pm 7.5\%$ or ± 0.75 pF whichever is larger	40±2℃, 90~95%RH, 500+12/-0hrs					
	Q : 103.33 min						
	IR : 500Mohm or 25Mohm $\cdot \mu F$						
	Whichever is Smaller						
High Temperature	Capacitance change :	With 200% of the rated voltage					
Resistance	within ±3% or ±0.3pF whichever is larger	Max. operating temperature					
	Q : 210 min	1000+48/-0hrs					
	IR : 1000Mohm or 50Mohm · μF						
	Whichever is Smaller						
Temperature	Capacitance change :	1 cycle condition					
Cycling	within $\pm 2.5\%$ or ± 0.25 pF whichever is larger	Min. operating temperature \rightarrow 25 °C					
	Tan δ, IR : initial spec.	\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.