



# **SPECIFICATION**

(Reference sheet)

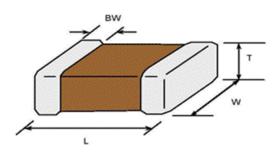
- Supplier : Samsung electro-mechanics
- · Product : Multi-layer Ceramic Capacitor
- · Samsung P/N :
- CL03C130GA3GNNC

- Description :
- CAP, 13pF, 25V, ± 2%, C0G, 0201

A. Samsung Part Number

		<u>CL</u> ①	<mark>03</mark> ②	<u>C</u> 3	<u>130</u> ④	<u>G</u> (5)	<mark>4</mark> 6	<u>3</u> ⑦	<u>G</u> 8	<u>N</u> 9	<u>N</u> 10	<u>C</u> 10	
1	Series	Samsung Multi-lay	er Ce	rami	c Capa	citor							
2	Size	0201 (inch co	de)		L: (	).60 :	± 0.03	mm			W:	0.30 ± 0.03 mm	
3	Dielectric	C0G				8	Inner	elect	rode			Cu	
4	Capacitance	<b>13</b> pF				-	Termi	natio	n			Cu	
5	Capacitance	± 2%					Platin	g				Sn 100%	(Pb Free)
	tolerance					9	Produ	ıct				Normal	
6	Rated Voltage	25 V				10	Speci	al				Reserved for fut	ure use
$\bigcirc$	Thickness	0.30 ± 0.03 mm				1	Packa	aging				Cardboard Type	, 7" reel

## **B. Structure and dimension**



Samsung P/N	Dimension(mm)								
Samsung P/N	L	W	Т	BW					
CL03C130GA3GNNC	0.60 ± 0.03	0.30 ± 0.03	0.30 ± 0.03	0.15 ± 0.05					

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

	Judgement	Test condition				
Capacitance	Within specified tolerance	1 <sup>™</sup> ±10% / 0.5~5Vrms				
Q	660 min	1				
Insulation	10,000Mohm or 500Mohm x #F	Rated Voltage 60~120 sec.				
Resistance	Whichever is smaller					
Appearance	No abnormal exterior appearance	Microscop (X10)				
Withstanding	No dielectric breakdown or	300% of the rated voltage				
Voltage	mechanical breakdown					
Temperature	C0G	+				
Characteristics	(From -55℃ to 125℃, Capacitance change s	should be within ±30PPM/ິC)				
Adhesive Strength	No peeling shall be occur on the	200g×F, for 10±1 sec.				
of Termination	terminal electrode					
Bending Strength	Capacitance change :	Bending to the limit (1mm)				
	within $\pm 5\%$ or $\pm 0.5$ 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.)				
Pagiatanas ta	Canacitanas shanas :	Colder pet : $270 \pm 5^{\circ}$ : $40 \pm 4000$				
Resistance to	Capacitance change :	Solder pot : 270±5℃, 10±1sec.				
Soldering heat	within $\pm 2.5\%$ or $\pm 0.25$ pF whichever is larger					
Vibration Test	Tan δ, IR : initial spec.	Amplitude : 1.5mm				
vibration rest	Capacitance change :					
	within $\pm 2.5\%$ or $\pm 0.25$ pF whichever is larger	From 10Hz to 55Hz (return : 1min.)				
Malatuna	Tan δ, IR : initial spec.	2hours ' 3 direction (x, y, z)				
Moisture	Capacitance change :	With rated voltage				
Resistance	within $\pm 7.5\%$ or $\pm 0.75$ pF whichever is larger	40±2℃, 90~95%RH, 500+12/-0hrs				
	Q: 143.33 min					
	IR : 500Mohm or 25Mohm × $\mu$ F					
Illink Tommonotumo	Whichever is smaller	With 2000/ of the retail values				
High Temperature	Capacitance change :	With 200% of the rated voltage				
Resistance	within $\pm 3\%$ or $\pm 0.3$ pF whichever is larger	Max. operating temperature				
	Q: 307.50 min	1,000+48/-0hrs				
	IR : 1,000Mohm or 50Mohm × µF					
Tammanatuma	Whichever is smaller	4 evels condition				
Temperature	Capacitance change :	1 cycle condition				
Cycling	within $\pm 2.5\%$ or $\pm 0.25$ whichever is larger	Min. operating temperature $\rightarrow 25^{\circ}$				
	Tan δ, IR : initial spec.	$\rightarrow$ Max. operating temperature $\rightarrow$ 25 °C				
		E puelo tost				
		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±5 °C, 30sec. )

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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- 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.