



SPECIFICATION

(Reference sheet)

- Supplier : Samsung electro-mechanics - Samsung P/N : CL21C1R5CBANNNC

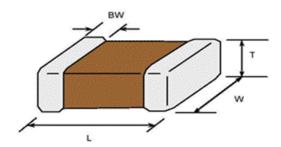
Product : Multi-layer Ceramic Capacitor
 Description : CAP, 1.5pF, 50V, ± 0.25pF, C0G, 0805

A. Samsung Part Number

<u>CL</u> <u>21</u> <u>C</u> <u>1R5</u> <u>C</u> <u>B</u> <u>A</u> <u>N</u> <u>N</u> <u>N</u> <u>C</u> ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

1	Series	Samsung Multi-layer Ceramic Capacitor			
2	Size	0805 (inch code)	L: 2.00 ± 0.10 mm	W: 1.25 ± 0.10 mm	
3	Dielectric	COG	8 Inner electrode	Ni	
4	Capacitance	1.5 pF	Termination	Cu	
⑤	Capacitance	± 0.25pF	Plating	Sn 100% (Pb Free)	
	tolerance		9 Product	Normal	
6	Rated Voltage	50 V	® Special	Reserved for future use	
7	Thickness	0.65 ± 0.10 mm	① Packaging	Cardboard Type, 7" reel	

B. Structure and dimension



Samsung P/N	Dimension(mm)				
(Lead Free)	L	W	Т	BW	
CL21C1R5CBANNNC	2.00 ± 0.10	1.25 ± 0.10	0.65 ± 0.10	0.50+0.20/-0.30	

C. Samsung Reliability Test and Judgement condition

A30 min nsulation 10,000Mohm or 500Mohm× _i F Resistance Whichever is smaller Whithstanding No dielectric breakdown or Mithstanding No beliete to breakdown COG Characteristics Characteristics Characteristics Characteristics No peeling shall be occur on the of Termination Bending Strength More than 75% of terminal surface is to be soldered newly Copacitance change: within ±2.5% or ±0.25F whichever is larger Tan δ, IR: initial spec. Whichever is larger Resistance With 1.0mm/sec. Solder pot: 270±5℃, 10±1sec. Solder pot: 270±5℃, 10±1sec. More than 75% of terminal surface is to be soldered newly Solder pot: 270±5℃, 10±1sec. Solder pot: 270±5℃, 10±1sec. Solder pot: 270±5℃, 10±1sec. Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Whoisture Resistance Within ±7.5% or ±0.75pF whichever is larger Q: 105 min IR: 500Mohm or 25Mohm × Whichever is smaller Capacitance change: With 200% of the rated voltage Max. operating temperature Resistance With 200% of the rated voltage Max. operating temperature More than 7500mhmm × With 200% of the rated voltage Max. operating temperature More than 7500mhmm × More than 75% or ±0.3FF whichever is larger Q: 215 min No peeling should be within ±3000mhmm × More than 2500mhmm v More than 2500mhmm v More than 75% or ±0.3FF whichever is larger With 200% of the rated voltage Max. operating temperature Max. operating temperature		Performance	Test condition			
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No abnormal exterior appearance Microscop (X10)	Insulation	10,000Mohm or 500Mohm× <i>μ</i> F	Rated Voltage 60~120 sec.			
No dielectric breakdown or mechanical breakdown 300% of the rated voltage	Resistance	Whichever is smaller				
### Micharce Charge mechanical breakdown	Appearance	No abnormal exterior appearance	Microscop (X10)			
COG Characteristics (From -55°C to 125°C, Capacitance change should be within ±30PPM/°C) Adhesive Strength of Termination Bending Strength Solderability More than 75% of terminal surface is to be soldered newly Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Woisture Capacitance change: within ±7.5% or ±0.75pF whichever is larger Q: 105 min IR: 500Mohm or 25Mohm × μF Whichever is smaller Capacitance within ±3% or ±0.3pF whichever is larger Q: 215 min With 200% of the rated voltage Max. operating temperature	Withstanding	No dielectric breakdown or	300% of the rated voltage			
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Whichever is smaller High Temperature Resistance Q: 215 min With 200% of the rated voltage Max. operating temperature 1000+48/-0hrs		Q: 105 min				
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within ±3% or ±0.3 pF whichever is larger Q: 215 min Max. operating temperature 1000+48/-0hrs		Whichever is smaller				
Q: 215 min 1000+48/-0hrs	High Temperature	Capacitance change :	With 200% of the rated voltage			
	Resistance	within ±3% or ±0.3pF whichever is larger				
IR: 1,000Mohm or 50Mohm x «F		Q: 215 min	1000+48/-0hrs			
μ . μ . μ		IR: 1,000Mohm or 50Mohm × μ F				
Whichever is smaller		Whichever is smaller				
Temperature Capacitance change : 1 cycle condition	Temperature	Capacitance change :	1 cycle condition			
	Cycling		_ ·			
Tan δ , IR : initial spec. \rightarrow Max. operating temperature \rightarrow 25 $^{\circ}$ C	•	-				
		· ·				
5 cycle 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.