



SPECIFICATION

(Reference sheet)

- Supplier : Samsung electro-mechanics - Samsung P/N : CL10C3R6CB8NNNC

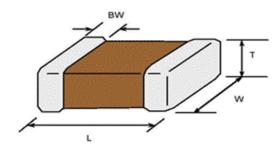
Product : Multi-layer Ceramic Capacitor
 Description : CAP, 3.6pF, 50V, ± 0.25pF, C0G, 0603

A. Samsung Part Number

<u>CL</u> <u>10</u> <u>C</u> <u>3R6</u> <u>C</u> <u>B</u> <u>8</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	0603 (inch code)	L: 1.60 ± 0.10 mm	W: 0.80 ± 0.10 mm
3	Dielectric	C0G	Inner electrode	Ni
4	Capacitance	3.6 pF	Termination	Cu
⑤	Capacitance	± 0.25pF	Plating	Sn 100% (Pb Free)
	tolerance		Product	Normal
6	Rated Voltage	50 V	⑩ Special	Reserved for future use
7	Thickness	0.80 ± 0.10 mm	① Packaging	Cardboard Type, 7" reel

B. Structure and dimension



Samsung P/N	Dimension(mm)				
(Lead Free)	L	W	Т	BW	
CL10C3R6CB8NNNC	1.60 ± 0.10	0.80 ± 0.10	0.80 ± 0.10	0.30 ± 0.20	

C. Samsung Reliability Test and Judgement condition

A72 min 10,000Mohm or 500Mohm×, pF Rated Voltage 60~120 sec. Microscop (X10) Microscop (X1		Performance	Test condition			
A72 min 10,000Mohm or 500Mohm×, pF Rated Voltage 60~120 sec. Microscop (X10) Microscop (X1	Capacitance	Within specified tolerance	1 ^{Mlz} ±10% / 0.5~5Vrms			
Resistance Whichever is smaller Appearance No abnormal exterior appearance Withstanding No dielectric breakdown or Woltage mechanical breakdown Temperature COG Characteristics (From -55°C to 125°C, Capacitance change should be within ±30PPM/°C) Adhesive Strength No peeling shall be occur on the terminal electrode Bending Strength Within ±5% or ±0.5pF whichever is larger Solderability More than 75% of terminal surface is to be soldered newly Resistance to Capacitance change: Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Wibration Test Capacitance change: Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Wibration Test Capacitance change: Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Wibration Test Capacitance change: Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Wibration Test Capacitance change: Within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. With rated voltage 40±2°C, 90~95%RH, 500+12/-0hrs Q: 112 min IR: 500Mohm or 25Mohm × Whichever is smaller	Q	472 min				
Appearance No abnormal exterior appearance Withstanding No dielectric breakdown or mechanical breakdown Temperature COG Characteristics (From -55°C to 125°C, Capacitance change should be within ±30PPM/°C) Adhesive Strength No peeling shall be occur on the terminal electrode Bending Strength Capacitance change: within ±5% or ±0.5pF whichever is larger Within ±5% or ±0.5pF whichever is larger Solderability More than 75% of terminal surface is to be soldered newly Resistance to Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Vibration Test Capacitance change: within ±2.5% or ±0.25pF whichever is larger Tan δ, IR: initial spec. Amplitude: 1.5mm From 10Hz to 55Hz (return: 1min.) 2hours '3 direction (x, y, z) With rated voltage With rated voltage Within ±7.5% or ±0.75pF whichever is larger Q: 112 min IR: 500Mohm or 25Mohm × μF Whichever is smaller	Insulation	10,000Mohm or 500Mohm× <i>μ</i> F	Rated Voltage 60~120 sec.			
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Temperature C0G	Appearance	No abnormal exterior appearance	Microscop (X10)			
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MoistureCapacitance change :With rated voltageResistancewithin $\pm 7.5\%$ or ± 0.75 pF whichever is larger 40 ± 2 °C, $90\sim 95\%$ RH, $500+12$ /-0hrsQ :112 minIR : 500 Mohm or 25 Mohm × μ FWhichever is smaller		within ±2.5% or ±0.25pF whichever is larger	From 10Hz to 55Hz (return : 1min.)			
Resistance within $\pm 7.5\%$ or $\pm 0.75\mathrm{pF}$ whichever is larger Q: 112 min IR: 500Mohm or 25Mohm × $\mu\mathrm{F}$ Whichever is smaller		Tan δ, IR : initial spec.	2hours ´ 3 direction (x, y, z)			
Q: 112 min IR: 500Mohm or 25Mohm × μ F Whichever is smaller	Moisture	Capacitance change :	· · · ·			
Q: 112 min IR: 500Mohm or 25Mohm × μ F Whichever is smaller	Resistance	within ±7.5% or ±0.75pF whichever is larger	_			
Whichever is smaller		Q: 112 min				
		IR : 500Mohm or 25Mohm × μ F				
High Temperature Capacitance change : With 200% of the rated voltage		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	Resistance	within ±3% or ±0.3pF whichever is larger				
Q: 236 min 1000+48/-0hrs		Q: 236 min	1000+48/-0hrs			
IR: 1,000Mohm or 50Mohm × μ F		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°C	-	-	1			
			. , ,			
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.

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Should you have any question regarding the product specifications,

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

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- 3 Medical equipment
- Military equipment
- 5 Disaster prevention/crime prevention equipment
- 6 Any other applications with the same as or similar complexity or reliability to the applications set forth above.

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2220J3K00102KXT 2225J2500824KXT CCR07CG103KM CGA2B2C0G1H010C CGA2B2C0G1H040C CGA2B2C0G1H050C

CGA2B2C0G1H060D CGA2B2C0G1H070D CGA2B2C0G1H151J CGA2B2C0G1H1R5C CGA2B2C0G1H2R2C CGA2B2C0G1H3R3C

CGA2B2C0G1H680J CGA2B2C0G1H6R8D CGA2B2X8R1H221K CGA2B2X8R1H472K CGA3E1X7R1C474K

CGA3E2C0G1H561JT0Y0N