



SPECIFICATION

(Reference sheet)

· Supplier : Samsung electro-mechanics · Samsung P/N : CL21B683KBCNNNC

· Product : Multi-layer Ceramic Capacitor · Description : CAP, 68nF, 50V, ±10%, X7R, 0805

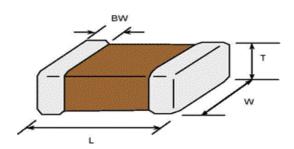
A. Samsung Part Number

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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	X7R	Inner electrode	Ni	
၂ ಄	Dielectric	A/K	8 Inner electrode	INI	
4	Capacitance	68 nF	Termination	Cu	
(5)	Capacitance	±10 %	Plating	Sn 100% (Pb Free)	
	tolerance		Product	Normal	
6	Rated Voltage	50 V	10 Special	Reserved for future use	
7	Thickness	$0.85 \pm 0.10 \text{ mm}$	11) Packaging	Cardboard Type, 7" reel	

B. Structure & Dimension



Samsung P/N	Dimension(mm)			
Samsung F/N	L	W	Т	BW
CL21B683KBCNNNC	2.00 ± 0.10	1.25 ± 0.10	0.85 ± 0.10	0.50 +0.20/-0.30

C. Samsung Reliablility Test and Judgement Condition

Tan δ (DF) 0.025 max. *A capacitor prior to measuring the capacitance is heat treated at 150°C+0/-10°C for 1 hour and maintained in ambient air for 24±2 hours. Rated Voltage 60~120 sec. Whichever is smaller Appearance No abnormal exterior appearance Microscope (×10) Withstanding No dielectric breakdown or mechanical breakdown Temperature Characteristics Adhesive Strength of Terminal electrode Bending Strength Capacitance change: within ±12.5% Bending to the limit (1mm) with 1.0mm/sec. Solderability More than 75% of terminal surface is to be soldered newly Soldering Heat Tan δ, IR: initial spec. Within ±12.5% Amplitude: 1.5mm From 10liz to 56liz (return: 1min.) Zhours × 3 direction (x, y, z) Moisture Resistance Capacitance change: within ±12.5% Resistance Tan δ : 0.05 max IR: 500Mohm or 25Mohm × μF Whichever is smaller Temperature Resistance Resistance Capacitance change: within ±12.5% With 720% of the rated voltage Max. operating temperature Max. operating temperature Resistance Tan δ : 0.05 max IR: 1,000Mohm or 50Mohm × μF Whichever is smaller Temperature Capacitance change: within ±7.5% Toyloc condition		Judgement	Test condition		
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Resistance Whichever is smaller Appearance No abnormal exterior appearance Microscope (×10)	Tan δ (DF)	0.025 max.	treated at 150 ℃+0/-10 ℃ for 1 hour and maintained in		
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is to be soldered newly 245±5°C, 3±0.3sec. (preheating: 80~120°C for 10~30sec.)	Solderability	More than 75% of terminal surface	SnAg3.0Cu0.5 solder		
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Whichever is smallerHigh Temperature ResistanceCapacitance change : within $\pm 12.5\%$ Tan δ : 0.05 max IR : 1,000Mohm or 50Mohm × μ F Whichever is smallerWith 200% of the rated voltage Max. operating temperature 1000+48/-0hrsTemperature CyclingCapacitance change : within $\pm 7.5\%$ Tan δ , IR : initial spec.1 cycle condition Min. operating temperature	Resistance	Tan δ: 0.05 max	40±2°C, 90~95%RH, 500+12/-0hrs		
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	Resistance	Tan δ: 0.05 max	Max. operating temperature		
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Cycling Tan δ, IR : initial spec. Min. operating temperature → 25°C		Whichever is smaller			
	Temperature	Capacitance change: within ±7.5%	1 cycle condition		
→ Max. operating temperature → 25°C	Cycling	Tan δ, IR : initial spec.	Min. operating temperature → 25°C		
			→ Max. operating temperature → 25°C		
5 cycle test			5 cycle test		

X 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.