



SPECIFICATION

(Reference sheet)

· Supplier : Samsung electro-mechanics · Samsung P/N : CL10F104ZB8NNNC

Product : Multi-layer Ceramic Capacitor

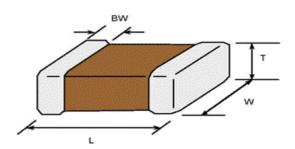
Description : CAP, 100nF, 50V, -20/+80%, Y5V, 0603

A. Samsung Part Number

<u>CL</u> <u>10</u> <u>F</u> <u>104</u> <u>Z</u> <u>B</u> <u>8</u> <u>N</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	Y5V	8	Inner electrode		Ni	
4	Capacitance	100 nF		Termination		Cu	
(5)	Capacitance	-20/+80 %		Plating		Sn 100% (Pb Fr	ee)
	tolerance		9	Product		Normal	
6	Rated Voltage	50 V	10	Special		Reserved for future us	se
7	Thickness	0.80 ± 0.10 mm	11)	Packaging		Cardboard Type, 7" re	eel

B. Structure & Dimension



Samsung P/N	Dimension(mm)					
Samsung F/N	L	W	Т	BW		
CL10F104ZB8NNNC	1.60 ± 0.10	0.80 ± 0.10	0.80 ± 0.10	0.30 ± 0.20		

C. Samsung Reliablility Test and Judgement Condition

	Judgement	Test condition		
Capacitance	Within specified tolerance	1 ^{klz} ±10% / 1.0±0.2Vrms		
Tan δ (DF)	0.05 max.	*A capacitor prior to measuring the capacitance is heat treated at 150 ℃ +0/-10 ℃ for 1 hour and maintained in ambient air for 24±2 hours.		
Insulation 10,000Mohm or 500Mohm× <i>µ</i> F		Rated Voltage 60~120 sec.		
Resistance	Whichever is smaller			
Appearance No abnormal exterior appearance		Microscope (×10)		
Withstanding	No dielectric breakdown or	250% of the rated voltage		
Voltage	mechanical breakdown			
Temperature	Y5V	•		
Characteristics	(From-30 ℃ to 85 ℃, Capacitance change s	should be within -82~+22%)		
Adhesive Strength	No peeling shall be occur on the	500g·f, for 10±1 sec.		
of Termination	terminal electrode			
Bending Strength	Capacitance change: within ±30%	Bending to the limit (1mm)		
		with 1.0mm/sec.		
Solderability	More than 75% of terminal surface	SnAg3.0Cu0.5 solder		
,	is to be soldered newly	245±5°C, 3±0.3sec.		
		(preheating : 80~120°C for 10~30sec.)		
Resistance to	Capacitance change : within ±20%	Solder pot : 270±5°C, 10±1sec.		
Soldering Heat	Tan δ, IR : initial spec.			
Vibration Test	Capacitance change : within \pm 20% Tan δ , IR : initial spec.	Amplitude: 1.5mm From 10Hz to 55Hz (return: 1min.) 2hours × 3 direction (x, y, z)		
Moisture Resistance	Capacitance change : within ±30% Tan δ : 0.09 max	With rated voltage 40±2°C, 90∼95%RH, 500+12/-0hrs		
	IR: 500Mohm or 25Mohm × μ F Whichever is smaller			
High Temperature	Capacitance change : within ±30%	With 200% of the rated voltage		
Resistance	Tan δ : 0.09 max	Max. operating temperature		
	IR: 1,000Mohm or 50Mohm × μ F Whichever is smaller	1000+48/-0hrs		
Temperature	Capacitance change: within ±20%	1 cycle condition		
Cycling	Tan δ, IR : initial spec.	Min. operating temperature → 25°C		
		→ Max. operating temperature → 25°C		
		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.