



SPECIFICATION

(Reference sheet)

· Supplier : Samsung electro-mechanics · Samsung P/N: CL05F104ZA5NNNC

Product : Multi-layer Ceramic Capacitor

Description : CAP, 100nF, 25V, -20/+80%, Y5V, 0402

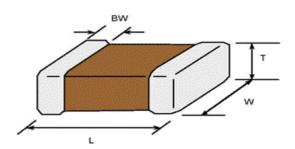
A. Samsung Part Number

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1	Series	Samsung Multi-layer Ceramic Capacitor					
2	Size	0402 (inch code)	L: 1.00	± 0.05 mm	W:	0.50 ± 0.05 mm	
3	Dielectric	Y5V	8	Inner electrode		Ni	
4	Capacitance	100 nF		Termination		Cu	
5	Capacitance	-20/+80 %		Plating		Sn 100% (Pb Free)	
	tolerance		9	Product		Normal	
6	Rated Voltage	25 V	10	Special		Reserved for future use	
7	Thickness	0.50 ± 0.05 mm	11)	Packaging		Cardboard Type, 7" reel	

B. Structure & Dimension



Samsung P/N	Dimension(mm)					
Samsung F/N	L	W	Т	BW		
CL05F104ZA5NNNC	1.00 ± 0.05	0.50 ± 0.05	0.50 ± 0.05	0.25 ± 0.10		

C. Samsung Reliablility Test and Judgement Condition

	Judgement	Test condition		
Capacitance	Within specified tolerance	1kHz ±10% / 1.0±0.2Vrms		
Tan δ (DF)	0.07 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.		
Insulation	10,000Mohm or 100Mohm× <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	hould 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	Capacitance change: within ±30%	With rated voltage		
Resistance	Tan δ: 0.09 max	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 × <i>μ</i> F	1000+48/-0hrs		
	Whichever is smaller			
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		
		1,		

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.

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1812J1K00473KXT 1812J2K00680JCT 1812J4K00102MXT 1812J5000102JCT 1812J5000103JCT 1812J5000682JCT NIN-FB391JTRF

NIN-FC2R7JTRF NPIS27H102MTRF C1206C101J1GAC C1608C0G1E472JT000N C2012C0G2A472J 2220J2K00101JCT

KHC201E225M76N0T00 1812J1K00222JCT 1812J2K00102KXT 1812J2K00222KXT 1812J2K00472KXT 2-1622820-7-CUT-TAPE

2220J3K00102KXT 2225J2500824KXT CCR07CG103KM CGA2B2C0G1H010C CGA2B2C0G1H040C CGA2B2C0G1H050C

CGA2B2C0G1H060D CGA2B2C0G1H070D CGA2B2C0G1H151J CGA2B2C0G1H1R5C CGA2B2C0G1H2R2C CGA2B2C0G1H3R3C

CGA2B2C0G1H680J CGA2B2C0G1H6R8D CGA2B2X8R1H221K CGA2B2X8R1H472K CGA3E1X7R1C474K

CGA3E2C0G1H561JT0Y0N