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SPECIFICATION

(Reference sheet)

• Supplier : Samsung electro-mechanics • Samsung P/N : CL10B105KA8NNNC

• Product : Multi-layer Ceramic Capacitor • Description : CAP, 1 µF, 25V, ±10%, X7R, 0603

A. Samsung Part Number

<u>CL</u> <u>10</u> <u>B</u> <u>105</u> <u>K</u> <u>A</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	.6 ± 0.1	mm	W:	0.8 ± 0.1	mm
3	Dielectric	X7R		(8	nner (electrode	Ν	li	
4	Capacitance	1 µF			Termi	nation	C	u	
(5)	Capacitance	±10 %			Platin	g	S	n 100%	(Pb Free)
	tolerance			(9	Produ	ct	N	lormal	
6	Rated Voltage	25 V		1	Specia	al	R	Reserved for	future use
7	Thickness	0.8 ± 0.1	mm	(1) Packa	ging	C	ardboard T	ype, 7" reel

B. Samsung Reliability Test and Judgement condition

	Performance	Test condition					
Capacitance	Within specified tolerance	1klt ±10% 1.0±0.2Vrms *A capacitor prior to measuring the capacitance is heat treated at 150 ℃+0/-10 ℃ for 1hour and maintained in					
Tan δ (DF)	0.1 max.	ambient air for 24±2 hours.					
Insulation Resistance	10,000Mohm or 100Mohm⋅ <i>μ</i> F Whichever is smaller	Rated Voltage 60~120 sec.					
Appearance	No abnormal exterior appearance	Microscope (×10)					
Withstanding	No dielectric breakdown or	250% of the rated voltage					
Voltage	mechanical breakdown						
Temperature	X7R						
Characteristics	(From -55℃ to 125℃, Capacitance change should be within ±15%)						
Adhesive Strength	No peeling shall be occur on the	500g·F, for 10±1 sec.					
of Termination	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	SnAg3.0Cu0.5 solder					
	is to be soldered newly	245±5℃, 3±0.3sec.					
		(preheating : 80~120 ℃ for 10~30sec.)					
Resistance to	Capacitance change: within ±7.5%	Solder pot : 270±5℃, 10±1sec.					
Soldering heat	Tan δ, IR : initial spec.						

	Performance	Test condition		
Vibration Test	Capacitance change : within ±5%	Amplitude : 1.5mm		
	Tan δ, IR : initial spec.	From 10Hz to 55Hz (return : 1min.)		
		2hours × 3 direction (x, y, z)		
Moisture	Capacitance change: within ±12.5%	With rated voltage		
Resistance	Tan δ: 0.125 max	40±2℃, 90~95%RH, 500+12/-0hrs		
	IR : 500Mohm or 12.5Mohm ⋅ μF			
	Whichever is smaller			
High Temperature	Capacitance change: within ±12.5%	With 150% of the rated voltage		
Resistance	Tan δ: 0.125 max	Max. operating temperature		
	IR : 1.000Mohm or 25Mohm ⋅ μF			
	Whichever is smaller	1000+48/-0hrs		
Temperature	Capacitance change : within ±7.5%	1 cycle condition		
Cycling	Tan δ, IR : initial spec.	Min. operating temperature → 25°C		
		→ Max. operating temperature → 25°C		
		5 cycle test		

^{*} The reliability test condition can be replaced by the corresponding accelerated test condition.

C. Recommended Soldering method:

Reflow (Reflow Peak Temperature : 260+0/-5 $^{\circ}$ C, 10sec. Max)



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