



SPECIFICATION

(Reference sheet)

- Supplier : Samsung electro-mechanics - Samsung P/N : CL31C180JBCNNNC

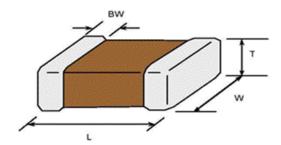
Product : Multi-layer Ceramic Capacitor
 Description : CAP, 18pF, 50V, ± 5%, C0G, 1206

A. Samsung Part Number

<u>CL</u> <u>31</u> <u>C</u> <u>180</u> <u>J</u> <u>B</u> <u>C</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	1206 (inch code)	L: 3.20 ± 0.15 mm	V: 1.60 ± 0.15 mm			
3	Dielectric	C0G	8 Inner electrode	Ni			
4	Capacitance	18 pF	Termination	Cu			
(5)	Capacitance	± 5%	Plating	Sn 100% (Pb Free)			
	tolerance		Product	Normal			
6	Rated Voltage	50 V	Special	Reserved for future use			
7	Thickness	0.85 ± 0.15 mm	① Packaging	Cardboard Type, 7" reel			

B. Structure and dimension



Samsung P/N	Dimension(mm)				
(Lead Free)	L	W	Т	BW	
CL31C180JBCNNNC	3.20 ± 0.15	1.60 ± 0.15	0.85 ± 0.15	0.50 ± 0.30	

C. Samsung Reliability Test and Judgement condition

Capacitance Within specified tolerance 1™½±10% / 0.5~5Vrms Q 760 min Rated Voltage 60~120 sec. Insulation 10,000Mohm or 500Mohm×µF Rated Voltage 60~120 sec. Resistance Whichever is smaller Microscop (X10) Appearance No abnormal exterior appearance Microscop (X10) Withstanding No dielectric breakdown or mechanical breakdown 300% of the rated voltage Temperature COG Formacteristics (From -55°C to 125°C, Capacitance change should be within ±30PPM/°C) Adhesive Strength No peeling shall be occur on the terminal electrode 500g×F, for 10±1 sec. Bending Strength Capacitance change : minute change : Bending to the limit (1mm) within ±5% or ±0.5pF whichever is larger Bending to the limit (1mm) with 1.0mm/sec. Solderability More than 75% of terminal surface is to be soldered newly SnAg3.0Cu0.5 solder			
Total Process Total Proce			
Resistance Whichever is smaller Appearance No abnormal exterior appearance Microscop (X10) Withstanding No dielectric breakdown or mechanical breakdown 300% of the rated voltage Voltage mechanical breakdown Temperature C0G Characteristics (From -55 °C to 125 °C, Capacitance change should be within ±30PPM/ °C) Adhesive Strength of Termination No peeling shall be occur on the terminal electrode 500g×F, for 10±1 sec. Bending Strength Capacitance change : with 1.0mm/sec. Bending to the limit (1mm) within ±5% or ±0.5pF whichever is larger With 1.0mm/sec. Solderability More than 75% of terminal surface SnAg3.0Cu0.5 solder			
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lis to be soldered newly 245+5°C, 3+0,3sec.	SnAg3.0Cu0.5 solder		
(preheating : 80~120 ℃ for 10~30sec.)			
Resistance to Capacitance change : Solder pot : 270±5℃, 10±1sec.			
Soldering heat within ±2.5% or ±0.25pF whichever is larger			
Tan δ, IR : initial spec.			
Vibration Test Capacitance change : Amplitude : 1.5mm			
within ±2.5% or ±0.25pF whichever is larger From 10Hz to 55Hz (return : 1min.)			
Tan δ, IR : initial spec. 2hours ´3 direction (x, y, z)	2hours '3 direction (x, y, z)		
Moisture Capacitance change : With rated voltage	· · · · ·		
Resistance within ±7.5% or ±0.75pF whichever is larger 40±2°C, 90~95%RH, 500+12/-0hrs	40±2℃, 90~95%RH, 500+12/-0hrs		
Q: 160 min			
IR : 500Mohm or 25Mohm × μF			
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	Max. operating temperature		
Q: 320 min 1000+48/-0hrs	1000+48/-0hrs		
IR: 1,000Mohm or 50Mohm × μ F			
Whichever is smaller			
Temperature Capacitance change : 1 cycle condition			
Cycling within ±2.5% or ±0.25pF whichever is larger Min. operating temperature → 25℃	1 *		
Tan δ, IR : initial spec. \rightarrow Max. operating temperature \rightarrow 25 °C			
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.

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.