SAMSUNG ELECTRO-MECHANICS

SPECIFICATION

- **Supplier : Samsung electro-mechanics**
- **Product : Multi-layer Ceramic Capacitor**
- **Samsung P/N : CL31C680KBCNBND**
- **Description : CAP, 68pF, 50V, ±10%, C0G, 1206**

A. Samsung Part Number

CL	31	C	680	K	B	C	N	B	N	D
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① **Series**	Samsung Multi-layer Ceramic Capacitor		
② **Size**	1206 (inch code)	L: 3.2 ± 0.15 mm	W: 1.6 ± 0.15 mm
③ **Dielectric**	C0G	⑧ **Inner electrode**	Ni
④ **Capacitance**	68 pF	**Termination**	Cu
⑤ **Capacitance tolerance**	±10 %	**Plating**	Sn 100% (Pb Free)
		⑨ **Product**	Array(4-element)
⑥ **Rated Voltage**	50 V	⑩ **Special**	Reserved for future use
⑦ **Thickness**	0.85 ± 0.15 mm	⑪ **Packaging**	Cardboard Type,13"reel(10,000ea)

B. Samsung Reliability Test and Judgement condition

	Performance	Test condition
Capacitance	Within specified tolerance	1㎒±10% 0.5~5Vrms
Q	1000 min	
Insulation Resistance	More than 500Mohm·㎌	Rated Voltage 60~120 sec.
Appearance	No abnormal exterior appearance	Visual inspection
Withstanding Voltage	No dielectric breakdown or mechanical breakdown	300% of the rated voltage
Temperature Characteristics	C0G (From -55℃ to 125℃, Capacitance change should be within ±30PPM/℃)	
Adhesive Strength of Termination	No peeling shall be occur on the terminal electrode	500g·F, for 10±1 sec.
Bending Strength	Capacitance change : within ±5%	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 245±5℃, 3±0.3sec. (preheating : 80~120℃ for 10~30sec.)
Resistance to Soldering heat	Capacitance change : within ±2.5% Tan δ, IR : initial spec.	Solder pot : 270±5℃, 10±1sec.

	Performance	Test condition
Vibration Test	Capacitance change : within ±2.5% Tan δ, IR : initial spec.	Amplitude : 1.5mm From 10㎐ to 55㎐ (return : 1min.) 2hours × 3 direction (x, y, z)
Moisture Resistance	Capacitance change : within ±7.5% Q : 200 min IR : More than 25㏁·㎌	With rated voltage 40±2℃, 90~95%RH, 500 +12/-0 hour
High Temperature Resistance	Capacitance change : within ±3% Q : 350 min IR : More than 50㏁·㎌	With 200% of the rated voltage Max. operating temperature 1000+48/-0 hour
Temperature Cycling	Capacitance change : within ±2.5% Tan δ, IR : initial spec.	1 cycle condition Min. operating temperature → 25℃ → Max. operating temperature → 25℃ 5 cycles test

C. Recommended Soldering method :

Reflow (Reflow Peak Temperature : 260+0/-5℃, 10sec. Max)

* For the more detail Specification, Please refer to the Samsung MLCC catalogue.

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