

SPECIFICATION

- Supplier : Samsung electro-mechanics
- Product : Multi-layer Ceramic Capacitor

- Samsung P/N : [CL03C680JA3ANN](#)
- Description : CAP, 68pF, 25V, ±5%, C0G, 0201

A. Samsung Part Number

CL 03 C 680 J A 3 A N N C
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

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|--------------------------------|---------------------------------------|--|--|--------------------------|-------------------------|--|------------------|--|--|--|
| ① Series | Samsung Multi-layer Ceramic Capacitor | | | | | | | | | |
| ② Size | 0201 (inch code) | | | L: 0.6 ± 0.03 mm | | | W: 0.3 ± 0.03 mm | | | |
| ③ Dielectric | C0G | | | ⑧ Inner electrode | Pd | | | | | |
| ④ Capacitance | 68 pF | | | ⑨ Termination | Ag | | | | | |
| ⑤ Capacitance tolerance | ±5 % | | | ⑩ Plating | Sn 100% (Pb Free) | | | | | |
| ⑥ Rated Voltage | 25 V | | | ⑪ Product | Normal | | | | | |
| ⑦ Thickness | 0.3 ± 0.03 mm | | | ⑫ Special | Reserved for future use | | | | | |
| | | | | ⑬ Packaging | Cardboard Type, 7" reel | | | | | |

B. Samsung Reliability Test and Judgement condition

| | Performance | Test condition |
|---|---|--|
| Capacitance | Within specified tolerance | 1MHz±10% 0.5~5Vrms |
| Q | 1000 min | |
| Insulation Resistance | 10,000Mohm or 500Mohm·μF Whichever is Smaller | Rated Voltage 60~120 sec. |
| Appearance | No abnormal exterior appearance | Microscope (×10) |
| Withstanding Voltage | No dielectric breakdown or mechanical breakdown | 300% of the rated voltage |
| Temperature Characterisitcs | C0G (From -55 °C to 125 °C, Capacitance change shoud be within ±30PPM/°C) | |
| Adhesive Strength of Termination | No peeling shall be occur on the terminal electrode | 200g·F, for 10±1 sec. |
| Bending Strength | Capacitance change : 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 | 1) Sn63Pb37 solder 235±5 °C, 5±0.5sec. 2) SnAg3.0Cu0.5 solder 245±5 °C, 3±0.3sec. (preheating : 80~120 °C for 10~30sec.) |
| Resistance to Soldering heat | Capacitance change : within ±2.5% or ±0.25pF whichever is larger Tan δ, IR : initial spec. | Solder pot : 270±5 °C, 10±1sec. |

| | Performance | Test condition |
|------------------------------------|---|---|
| Vibration Test | Capacitance change : within $\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger Tan δ , IR : initial spec. | Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours \times 3 direction (x, y, z) |
| Humidity | Capacitance change : within $\pm 5\%$ or $\pm 0.5\text{pF}$ whichever is larger Q: 350 min IR : 1000Mohm or $50\text{Mohm} \cdot \mu\text{F}$ Whichever is Smaller | 40 ± 2 °C, 90~95%RH, 500+12/-0hrs |
| Moisture Resistance | Capacitance change : within $\pm 7.5\%$ or $\pm 0.75\text{pF}$ whichever is larger Q : 200 min IR : 500Mohm or $25\text{Mohm} \cdot \mu\text{F}$ Whichever is Smaller | With rated voltage 40 ± 2 °C, 90~95%RH, 500+12/-0hrs |
| High Temperature Resistance | Capacitance change : within $\pm 3\%$ or $\pm 0.3\text{pF}$ whichever is larger Q : 350 min IR : 1000Mohm or $50\text{Mohm} \cdot \mu\text{F}$ Whichever is Smaller | With 200% of the rated voltage Max. operating temperature 1000+48/-0hrs |
| Temperature Cycling | Capacitance change : within $\pm 2.5\%$ or $\pm 0.25\text{pF}$ whichever is larger Tan δ , IR : initial spec. | 1 cycle condition Min. operating temperature \rightarrow 25 °C \rightarrow Max. operating temperature \rightarrow 25 °C 5 cycle test |

C. Recommended Soldering method :

Reflow (Reflow Peak Temperature : 260 $\pm 0/-5$ °C, 10sec. Max)

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