

SPECIFICATION (Reference sheet)

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

- Samsung P/N : **CL03C1R6BA3GNNH**
- Description : **CAP, 1.6pF, 25V, ±0.1pF, C0G, 0201**

A. Samsung Part Number

CL 03 C 1R6 B A 3 G N N H
 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 | Cu | | | | | |
| ④ Capacitance | 1.6 pF | | | Termination | Cu | | | | | |
| ⑤ Capacitance tolerance | ±0.1 pF | | | Plating | Sn 100% (Pb Free) | | | | | |
| ⑥ Rated Voltage | 25 V | | | ⑨ Product | Normal | | | | | |
| ⑦ Thickness | 0.3 ± 0.03 mm | | | ⑩ Special | Reserved for future use | | | | | |
| | | | | ⑪ 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 | 432 min | |
| Insulation Resistance | More than 500Mohm·μF | 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 | 200g·F, for 10±1 sec. |
| Bending Strength | Capacitance change : within ±0.5pF | 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 ±0.25pF Tan δ, IR : initial spec. | Solder pot : 270±5℃, 10±1sec. |

| | Performance | Test condition |
|------------------------------------|--|--|
| Vibration Test | Capacitance change : within $\pm 0.25\text{pF}$ Tan δ , IR : initial spec. | Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours \times 3 direction (x, y, z) |
| Moisture Resistance | Capacitance change : within $\pm 0.75\text{pF}$ Q : 105.33 min IR : More than $25\text{M}\Omega \cdot \mu\text{F}$ | With rated voltage $40 \pm 2^\circ\text{C}$, 90~95%RH, 500+12/-0 hours |
| High Temperature Resistance | Capacitance change : within $\pm 0.3\text{pF}$ Q : 216 min IR : More than $50\text{M}\Omega \cdot \mu\text{F}$ | With 200% of the rated voltage Max. operating temperature 1000+48/-0 hours |
| Temperature Cycling | Capacitance change : within $\pm 0.25\text{pF}$ Tan δ , IR : initial spec. | 1 cycle condition Min. operating temperature $\rightarrow 25^\circ\text{C}$ \rightarrow Max. operating temperature $\rightarrow 25^\circ\text{C}$ 5 cycles test |

C. Recommended Soldering method :

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



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.