

# SPECIFICATION

(Reference sheet)

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

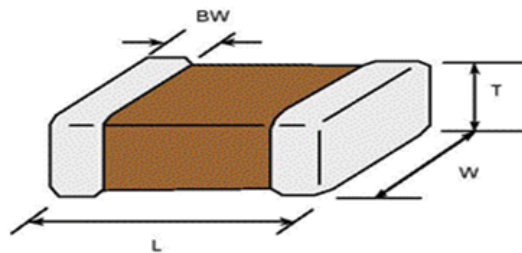
- Samsung P/N : **CL03C3R6BA3GNNC**
- Description : **CAP, 3.6pF, 25V, ±0.1pF, C0G, 0201**

## A. Samsung Part Number

CL   03   C   3R6   B   A   3   G   N   N   C  
①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧   ⑨   ⑩   ⑪

|                         |                                       |             |                   |                         |                |    |
|-------------------------|---------------------------------------|-------------|-------------------|-------------------------|----------------|----|
| ① Series                | Samsung Multi-layer Ceramic Capacitor |             |                   |                         |                |    |
| ② Size                  | 0201                                  | (inch code) | L: 0.60 ± 0.03    | mm                      | W: 0.30 ± 0.03 | mm |
| ③ Dielectric            | C0G                                   |             | ⑧ Inner electrode | Cu                      |                |    |
| ④ Capacitance           | 3.6 pF                                |             | Termination       | Cu                      |                |    |
| ⑤ Capacitance tolerance | ±0.1 pF                               |             | Plating           | Sn 100% (Pb Free)       |                |    |
| ⑥ Rated Voltage         | 25 V                                  |             | ⑨ Product         | Normal                  |                |    |
| ⑦ Thickness             | 0.30 ± 0.03 mm                        |             | ⑩ Special         | Reserved for future use |                |    |
|                         |                                       |             | ⑪ Packaging       | Cardboard Type, 7" reel |                |    |

## B. Structure and dimension



| Samsung P/N<br>(Lead Free) | Dimension(mm) |           |           |           |
|----------------------------|---------------|-----------|-----------|-----------|
|                            | L             | W         | T         | BW        |
| CL03C3R6BA3GNNC            | 0.60±0.03     | 0.30±0.03 | 0.30±0.03 | 0.15±0.05 |

### C. Samsung Reliability Test and Judgement condition

|                                  | Performance                                                                                                                                                      | Test condition                                                                                                                |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Capacitance                      | Within specified tolerance                                                                                                                                       | 1MHz±10%      0.5~5Vrms                                                                                                       |
| Q                                | 472 min                                                                                                                                                          |                                                                                                                               |
| Insulation Resistance            | 10,000Mohm or 500Mohm· $\mu$ F<br>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 Characteristics      | C0G<br>(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 :<br>within ±5% or ±0.5pF whichever is larger                                                                                                 | Bending to the limit (1mm)<br>with 1.0mm/sec.                                                                                 |
| Solderability                    | More than 75% of terminal surface is to be soldered newly                                                                                                        | SnAg3.0Cu0.5 solder<br>245±5℃, 3±0.3sec.<br>(preheating : 80~120℃ for 10~30sec.)                                              |
| Resistance to Soldering heat     | Capacitance change :<br>within ±2.5% or ±0.25pF whichever is larger<br>Tan δ, IR : initial spec.                                                                 | Solder pot : 270±5℃, 10±1sec.                                                                                                 |
| Vibration Test                   | Capacitance change :<br>within ±2.5% or ±0.25pF whichever is larger<br>Tan δ, IR : initial spec.                                                                 | Amplitude : 1.5mm<br>From 10Hz to 55Hz (return : 1min.)<br>2hours × 3 direction (x, y, z)                                     |
| Moisture Resistance              | Capacitance change :<br>within ±7.5% or ±0.75pF whichever is larger<br>Q :            112 min<br>IR :        500Mohm or 25Mohm · $\mu$ F<br>Whichever is smaller | With rated voltage<br>40±2℃, 90~95%RH, 500+12/-0hrs                                                                           |
| High Temperature Resistance      | Capacitance change :<br>within ±3% or ±0.3pF whichever is larger<br>Q :            236 min<br>IR :        1,000Mohm or 50Mohm · $\mu$ F<br>Whichever is smaller  | With 200% of the rated voltage<br>Max. operating temperature<br>1000+48/-0hrs                                                 |
| Temperature Cycling              | Capacitance change :<br>within ±2.5% or ±0.25pF whichever is larger<br>Tan δ, IR : initial spec.                                                                 | 1 cycle condition<br>Min. operating temperature      →    25℃<br>→    Max. operating temperature →    25℃<br><br>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℃, 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.

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So, you need to approve the product specifications before placing an order.

Should you have any question regarding the product specifications,  
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- ② Automotive or Transportation equipment (vehicles , trains , ships , etc)
- ③ Medical equipment
- ④ Military equipment
- ⑤ Disaster prevention/crime prevention equipment
- ⑥ Any other applications with the same as or similar complexity or reliability to the applications set forth above.