SAMSUNG ELECTRO-MECHANICS

RoHS+Halogen Compliant

# SPECIFICATION (Reference sheet)

- **Supplier : Samsung electro-mechanics**
- **Product : Multi-layer Ceramic Capacitor**
- **Samsung P/N : CL03C110GA3GNNH**
- **Description : CAP, 11pF, 25V, ±2%, C0G, 0201**

## A. Samsung Part Number

| CL | 03 | C | 110 | G | A | 3 | G | N | N | H |
|---|---|---|---|---|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | ⑩ | ⑪ |

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

## B. Samsung Reliability Test and Judgement condition

| | Performance | Test condition |
|---|---|---|
| **Capacitance** | Within specified tolerance | 1㎒±10% 0.5~5Vrms |
| **Q** | 620 min | |
| **Insulation Resistance** | 10,000Mohm or 500Mohm·㎌ 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 (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 ±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 245±5℃, 3±0.3sec. (preheating : 80~120℃ 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℃, 10±1sec. |

| | Performance | Test condition |
|---|---|---|
| **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 : 136.67 min<br>IR : 500Mohm or 25Mohm · μF<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 : 302.5 min<br>IR : 1000Mohm or 50Mohm · μF<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>5 cycle test |

**C. 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.
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.

# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

***Click to view similar products for*** Multilayer Ceramic Capacitors MLCC - SMD/SMT ***category:***

***Click to view products by*** Samsung ***manufacturer:***

Other Similar products are found below :

M39014/01-1467 M39014/02-1218V M39014/02-1225V M39014/02-1262V M39014/02-1301 M39014/22-0631 1210J5000102JCT 1210J2K00102KXT 1210J5000103KXT 1210J5000223KXT D55342E07B379BR-TR D55342E07B523DR-T/R 1812J1K00103KXT 1812J1K00473KXT 1812J2K00680JCT 1812J4K00102MXT 1812J5000102JCT 1812J5000103JCT 1812J5000682JCT NIN-FB391JTRF NIN-FC2R7JTRF NPIS27H102MTRF C1206C101J1GAC C1608C0G1E472JT000N C2012C0G2A472J 2220J2K00101JCT KHC201E225M76N0T00 LRC-LRF1206LF-01R025FTR1K 1812J1K00222JCT 1812J2K00102KXT 1812J2K00222KXT 1812J2K00472KXT 2-1622820-7-CUT-TAPE 2220J3K00102KXT 2225J2500824KXT CCR07CG103KM CGA2B2C0G1H010C CGA2B2C0G1H040C CGA2B2C0G1H050C CGA2B2C0G1H060D CGA2B2C0G1H070D CGA2B2C0G1H151J CGA2B2C0G1H1R5C CGA2B2C0G1H2R2C CGA2B2C0G1H3R3C CGA2B2C0G1H680J CGA2B2C0G1H6R8D CGA2B2X8R1H221K CGA2B2X8R1H472K CGA3E1X7R1C474K