



SPECIFICATION

(Reference sheet)

- Supplier : Samsung electro-mechanics - Samsung P/N : CL10C160JB8NNNC

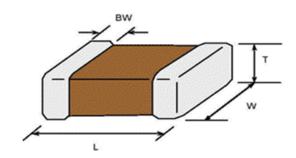
• Product : Multi-layer Ceramic Capacitor • Description : CAP, 16pF, 50V, ± 5%, C0G, 0603

A. Samsung Part Number

<u>CL</u> <u>10</u> <u>C</u> <u>160</u> <u>J</u> <u>B</u> <u>8</u> <u>N</u> <u>N</u> <u>N</u> <u>C</u> ① ② ③ ④ ⑤ ⑥ ⑦ ® ⑨ ⑩ ⑪

| ① Series | Samsung Multi-layer Ceramic Capacitor | | | | |
|-----------------|---------------------------------------|-------------------|-------------------------|--|--|
| ② Size | 0603 (inch code) | L: 1.60 ± 0.10 mm | W: 0.80 ± 0.10 mm | | |
| ③ Dielectric | COG | Inner electrode | Ni | | |
| Capacitance | 16 pF | Termination | Cu | | |
| ⑤ Capacitance | ± 5 % | Plating | Sn 100% (Pb Free) | | |
| tolerance | | Product | Normal | | |
| 6 Rated Voltage | 50 V | Special | Reserved for future use | | |
| ⑦ Thickness | $0.80 \pm 0.10 \text{ mm}$ | ① Packaging | Cardboard Type, 7" reel | | |

B. Structure and dimension



| Samsung P/N | Dimension(mm) | | | |
|-----------------|---------------|-------------|-------------|-------------|
| (Lead Free) | L | W | Т | BW |
| CL10C160JB8NNNC | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.80 ± 0.10 | 0.30 ± 0.20 |

C. Samsung Reliability Test and Judgement condition

| | Performance | Test condition | | |
|-------------------|---|---------------------------------------|--|--|
| Capacitance | Within specified tolerance | 1Mb±10% 0.5~5Vrms | | |
| Q | 720 min | | | |
| Insulation | 10,000Mohm or 500Mohm× <i>μ</i> F | Rated Voltage 60~120 sec. | | |
| Resistance | Whichever is smaller | | | |
| Appearance | No abnormal exterior appearance | Microscope ('10) | | |
| Withstanding | No dielectric breakdown or | 300% of the rated voltage | | |
| Voltage | mechanical breakdown | | | |
| Temperature | COG | | | |
| Characteristics | (From -55℃ to 125℃, Capacitance change should be within ±30PPM/℃) | | | |
| Adhesive Strength | No peeling shall be occur on the | 500g×F, for 10±1 sec. | | |
| of Termination | terminal electrode | | | |
| Bending Strength | Capacitance change : | Bending to the limit (1mm) | | |
| | within ±5% or ±0.5pF whichever is larger | with 1.0mm/sec. | | |
| Solderability | More than 75% of terminal surface | SnAg3.0Cu0.5 solder | | |
| | is to be soldered newly | 245±5℃, 3±0.3sec. | | |
| | | (preheating : 80~120 ℃ for 10~30sec.) | | |
| | | | | |
| Resistance to | Capacitance change : | Solder pot : 270±5℃, 10±1sec. | | |
| Soldering heat | within ±2.5% or ±0.25pF whichever is larger | | | |
| _ | Tan δ, IR : initial spec. | | | |
| Vibration Test | Capacitance change : | Amplitude: 1.5mm | | |
| | within ±2.5% or ±0.25pF whichever is larger | From 10Hz to 55Hz (return : 1min.) | | |
| | Tan δ, IR : initial spec. | 2hours ' 3 direction (x, y, z) | | |
| Moisture | Capacitance change : | With rated voltage | | |
| Resistance | within ±7.5% or ±0.75pF whichever is larger | 40±2℃, 90~95%RH, 500+12/-0hrs | | |
| | Q: 153.33 min | | | |
| | IR : 500Mohm or 25Mohm × μ F | | | |
| | Whichever is smaller | | | |
| High Temperature | Capacitance change : | With 200% of the rated voltage | | |
| Resistance | within ±3% or ±0.3pF whichever is larger | Max. operating temperature | | |
| | Q: 315 min | 1000+48/-0hrs | | |
| | IR: 1,000Mohm or 50Mohm × μ F | | | |
| | Whichever is smaller | | | |
| Temperature | Capacitance change : | 1 cycle condition | | |
| Cycling | within ±2.5% or ±0.25pF whichever is larger | Min. operating temperature → 25°C | | |
| | Tan δ, IR : initial spec. | → Max. operating temperature → 25°C | | |
| | | | | |
| | | | | |
| | | 5 cycle test | | |
| | ! | <u> </u> | | |

^{*} 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)



A 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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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
- Military equipment
- 5 Disaster prevention/crime prevention equipment
- Any other applications with the same as or similar complexity or reliability to the applications set forth above.