



SPECIFICATION

(Reference sheet)

· Supplier : Samsung electro-mechanics · Samsung P/N : CL21A106KAYNNNG

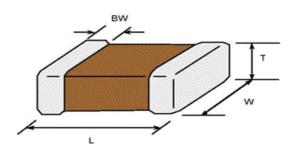
· Product : Multi-layer Ceramic Capacitor · Description : CAP, 10uF, 25V, ±10%, X5R, 0805

A. Samsung Part Number

<u>CL</u> <u>21</u> <u>A</u> <u>106</u> <u>K</u> <u>A</u> <u>Y</u> <u>N</u> <u>N</u> <u>N</u> <u>G</u> ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

| 1 | Series | Samsung Multi-layer Ceramic Capacitor | | | | | |
|-----|---------------|---------------------------------------|-------------------------------|-----------------|----|----------------------------|--|
| 2 | Size | 0805 (inch code) | L: $2.00 \pm 0.20 \text{ mm}$ | | W: | $1.25 \pm 0.20 \text{ mm}$ | |
| 3 | Dielectric | X5R | 8 | Inner electrode | | Ni | |
| 4 | Capacitance | 10 uF | | Termination | | Cu | |
| (5) | Capacitance | ±10 % | | Plating | | Sn 100% (Pb Free) | |
| | tolerance | | 9 | Product | | Normal | |
| 6 | Rated Voltage | 25 V | 10 | Special | | Reserved for future use | |
| 7 | Thickness | $1.25 \pm 0.20 \text{ mm}$ | 11) | Packaging | | Embossed Type, 7" reel | |

B. Structure & Dimension



| Samsung P/N | Dimension(mm) | | | | | |
|-----------------|---------------|-------------|-------------|------------------|--|--|
| Samsung F/N | L | W | Т | BW | | |
| CL21A106KAYNNNG | 2.00 ± 0.20 | 1.25 ± 0.20 | 1.25 ± 0.20 | 0.50 +0.20/-0.30 | | |

C. Samsung Reliablility Test and Judgement Condition

| Capacitance Within specified tolerance 1kHz ±10% / 1.0±0.2Vrms *A capacitor prior to measuring the capacitance treated at 150 ℃+0/-10 ℃ for 1 hour and maintage ambient air for 24±2 hours. Insulation Resistance 10,000Mohm or 100Mohm×μF Rated Voltage 60~120 sec. | | | |
|--|--|--|--|
| Tan δ (DF) 0.1 max. treated at $150^{\circ}\text{C} + 0/-10^{\circ}\text{C}$ for 1 hour and maintanable ambient air for 24 ± 2 hours.Insulation $10,000\text{Mohm or }100\text{Mohm} \times \mu\text{F}$ Rated Voltage $60\sim120 \text{ sec.}$ | | | |
| | | | |
| Resistance Whichever is smaller | | | |
| | | | |
| Appearance No abnormal exterior appearance Microscope (×10) | | | |
| Withstanding No dielectric breakdown or 250% of the rated voltage | | | |
| Voltage mechanical breakdown | | | |
| Temperature X5R | | | |
| Characteristics (From-55 °C to 85 °C, Capacitance change should be within ±15%) | | | |
| Adhesive Strength No peeling shall be occur on the 500g·f, for 10±1 sec. | | | |
| of Termination terminal electrode | | | |
| Bending Strength Capacitance change: within ±12.5% Bending to the limit (1mm) | | | |
| with 1.0mm/sec. | | | |
| Solderability More than 75% of terminal surface SnAg3.0Cu0.5 solder | | | |
| is to be soldered newly 245±5°C, 3±0.3sec. | | | |
| (preheating : 80~120°C for 10~30sec.) | | | |
| Resistance to Capacitance change: within ±7.5% Solder pot: 270±5°C, 10±1sec. | | | |
| Soldering Heat Tan δ, IR : initial spec. | | | |
| Vibration TestCapacitance change : within ± 5%Amplitude : 1.5mmTan δ, IR : initial spec.From 10Hz to 55Hz (return : 1min.)2hours × 3 direction (x, y, z) | | | |
| Moisture Capacitance change: within ±12.5% With rated voltage | | | |
| Resistance Tan δ : 0.2 max 40±2°C, 90~95%RH, 500+12/-0hrs | | | |
| IR: 500Mohm or 12.5Mohm × μ F | | | |
| Whichever is smaller | | | |
| High Temperature Capacitance change: within ±12.5% With 150% of the rated voltage | | | |
| Resistance Tan δ : 0.2 max Max. operating temperature | | | |
| IR: 1,000Mohm or 25Mohm × μ F 1000+48/-0hrs | | | |
| Whichever is smaller | | | |
| Temperature Capacitance change: within ±7.5% 1 cycle condition | | | |
| Cycling Tan δ, IR : initial spec. Min. operating temperature \rightarrow 25°C | | | |
| → Max. operating temperature → 25°C | | | |
| 5 cycle test | | | |

X The reliability test condition can be replaced by the corresponding accelerated test condition.

D. Recommended Soldering method:

Reflow (Reflow Peak Temperature : 260+0/-5°C, 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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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
- 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.