

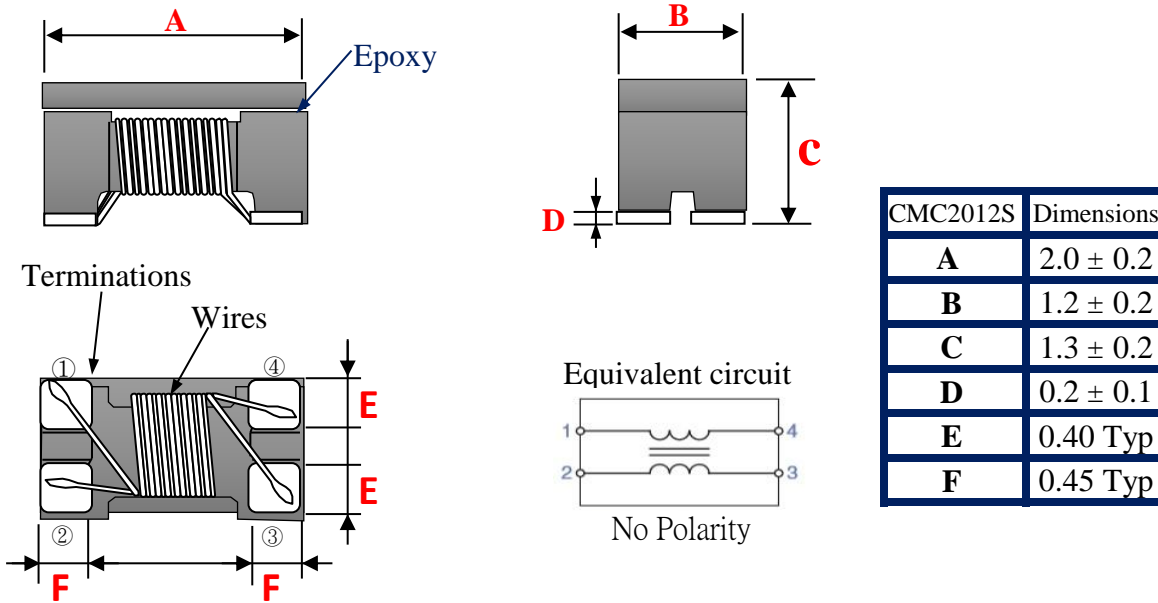
Common Mode Choke
For High-Speed In USB3.1

CMC V-Series

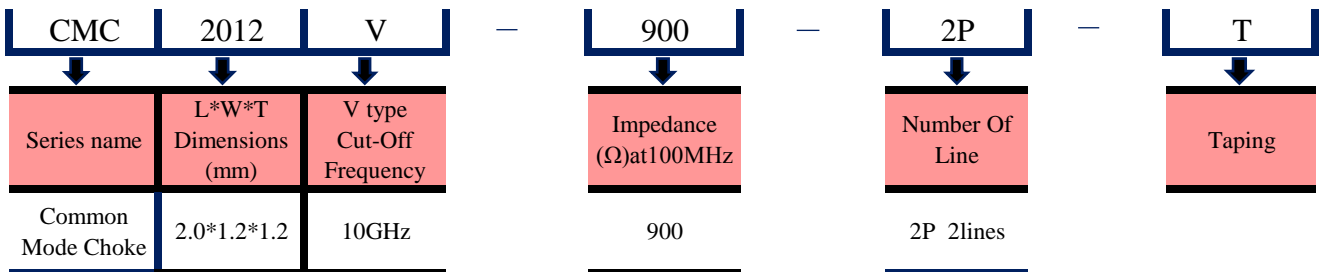
CMC2012V type

CMC2012V [0805 inch]

◆ SHAPE & DIMENSIONS



◆ PART NUMBER CONSTRUCTION



◆ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY.

| Type | Temperature range | | Reel Dimensions (mm) | Package quantity (pieces/reel) |
|-----------------|-------------------------------|-----------------------------|----------------------------|--------------------------------------|
| | Operating Temperature ℃ | Storage Temperature ℃ | | |
| CMC2012V-Series | -40 to +85 | -40 to +85 | ø180 | 2,000 |

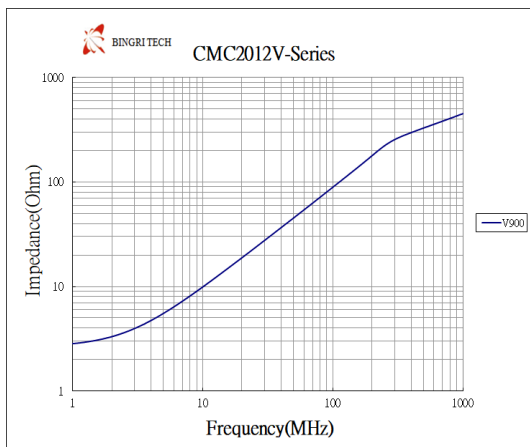
◆ ELECTRICAL CHARACTERISTICS

| Impedance 100MHz (Ω) | DC Resistance (Ω) max. | Rated Voltage (V) typ. | Insulation Resistance (M Ω)min. | Cut-Off Frequency | Rated Current (mA)ma | Part No. |
|----------------------------------|---------------------------------------|------------------------------|-----------------------------------------------|----------------------|----------------------------|--------------|
| 90 -30%/+20% | 0.30 | 20 | 10 | 10GHz | 300 | CMC2012V-900 |

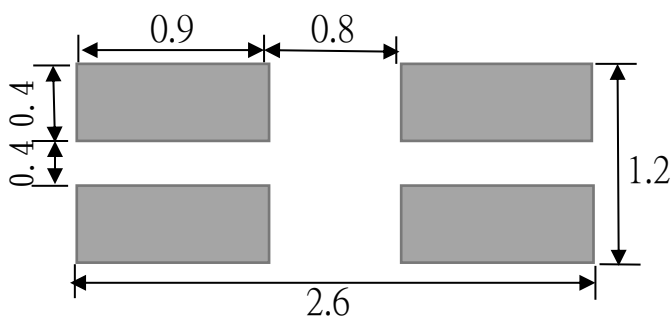
◆ Measurement Equipment

| Measurement Item | Meter | Manufacturer |
|-----------------------|----------------|------------------|
| Common Mode Impedance | E4991A / 4287A | Agilent |
| DC Resistance | 16502 | Chroma |
| Insulation Resistance | 4339B / 19073 | Agilent / Chroma |

◆ PERFORMANCE CURVES



◆ Recommended Soldering Conditions (Please use this product by reflow soldering)

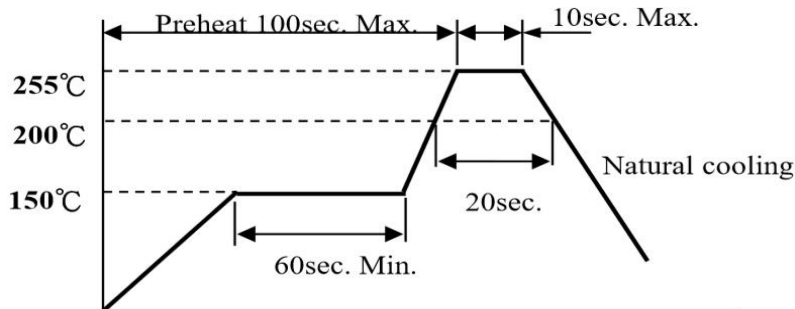


RELIABILITY



◆ RECOMMENDED REFLOW PROFILE

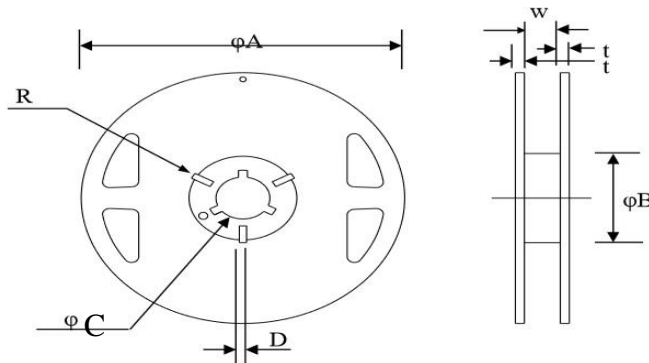
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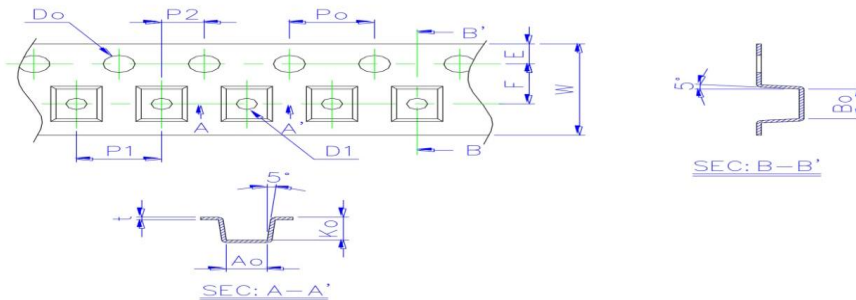
◆ MECHANICAL RELIABILITY

| TEST ITEM | Specification & Requirement | Method Used |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Solderability | The surface of terminal/pin tested shall be covered with new solder by 90% | Solder heat proof: Preheating: 150 ± 10°C 60 seconds Soldering: 245 ± 5°C for 4 ± 1 sec |
| Solder Heat Resistance | Components should have not evidence of Impedance: within ± 15% of initial value | Preheating: 150°C 60secs Flux: rosin Dip time: 10 ± 0.5 secs |
| Terminal strength | Series No. | F (Kg) |
| | CMC2012F/H/S | 0.5 |
| | CMC/P3216F | 1.0 |
| | CMC/P3225F | 1.0 |
| | CMC/P4532F | 1.2 |
| <p>Solder a chip to test substrate and then laterally apply a force in the arrow direction</p> | | |
| ENDURANCE RELIABILITY | | |
| Thermal Shock | Impedance change within ± 15% Without mechanical damage | -65°C, (30 mins) -> room temp. (2 mins) 125°C, (30 mins) -> room temp. (2 mins) 50 cycles |
| Humidity Resistance | | Apply IDC current @ 60°C ambient Humidity: 90% Duration: 168 hrs |
| Low Temp. Storing | | Storing Temp. -40 ± 2 °C for total 168 +5/-0 hours |
| High Temp. Storing | | Storing Temp. 125 ± 2 °C for total 168 +5/-0 hours |

◆ Reel Dimension & Tape Dimension



| Type | A(mm) | B(mm) | C(mm) | W(mm) |
|---------|-------|--------|----------|----------|
| 7"x8mm | 178±1 | 60±0.5 | 13.5±0.5 | 9.5±0.5 |
| 7"x12mm | 178±1 | 60±1 | 13.3±0.5 | 13.7±0.5 |



| Size | Ao(mm) | Bo(mm) | Ko(mm) | W(mm) | E(mm) | F(mm) | Po(mm) | P1(mm) | Do(mm) |
|------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------------|
| 2012 | 1.50±0.05 | 2.35±0.05 | 1.45±0.05 | 8.00±0.20 | 1.75±0.10 | 3.50±0.05 | 4.00±0.05 | 4.00±0.10 | 1.50+0.10/-0.00 |
| 3216 | 1.88±0.05 | 3.50±0.05 | 2.10±0.05 | 8.00±0.20 | 1.75±0.10 | 3.50±0.05 | 4.00±0.05 | 4.00±0.10 | 1.50+0.10/-0.00 |
| 3225 | 2.88±0.10 | 3.65±0.10 | 2.50±0.10 | 8.00±0.10 | 1.75±0.10 | 3.50±0.05 | 4.00±0.10 | 4.00±0.10 | 1.50+0.10/-0.00 |
| 4532 | 3.45±0.10 | 4.90±0.10 | 3.05±0.10 | 12.00±0.20 | 1.75±0.10 | 3.50±0.05 | 4.00±0.05 | 8.00±0.10 | 1.50+0.10/-0.00 |

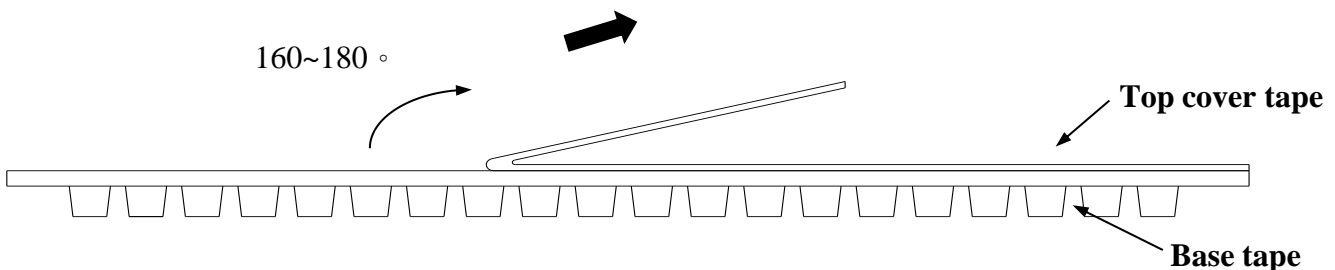
◆ Cover Tape Peel Strength

The force for tearing off cover tape is 0.05~0.69(N) in the arrow direction at the following conditions:

Temperature : 5 ~ 35°C

Humidity : 45 ~ 85%

Atmospheric pressure : 860 ~ 1060 hpa



◆ Packaging Quantity

| Chip Size | 2012 | 3216 | 3225 | 4532 |
|------------|------|------|------|------|
| 8mm / Reel | 2000 | 2000 | 1000 | 500 |