



ISO9001 & ISO14001 & TS16949 CHILISIN ELECTRONICS CORP.

Chip Series Specification

1 Scope: This specification applies to Chip series antenna

2 MN SPEC

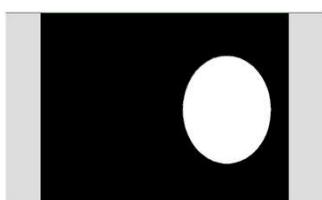
BTCA3216C

3 Rating:

Operating Temperature: $-25^{\circ}\text{C} \sim 125^{\circ}\text{C}$

Storage Temperature: $20^{\circ}\text{C} \sim 25^{\circ}\text{C}$ **R.H. 65% (For Reference)**

4 Marking:

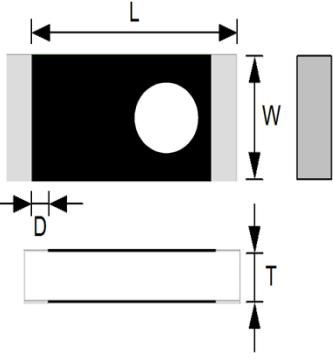


5 Standard Testing Condition:

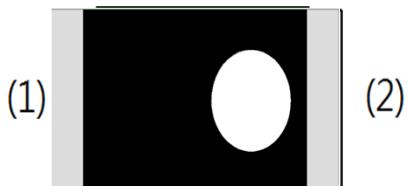
| | Unless otherwise specified | In case of doubt |
|--------------------|---|--|
| Humidity | Ordinary Humidity(25 to 85% RH) | 60 to 70 % RH |
| Temperature | Ordinary Temperature(15 to 35°C) | $20 \pm 2^{\circ}\text{C}$ |

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6 Configuration and Dimensions:

| Figure | Dimensions(mm) | |
|---|----------------|---------|
|  | L | 3.2±0.2 |
| | W | 1.6±0.2 |
| | D | 0.5±0.2 |
| | T | 0.5±0.2 |
| | | |
| | | |
| | | |
| | | |

TERMINAL CONFIGURATION



(1) Feed Termination
 (2) Solder Termination

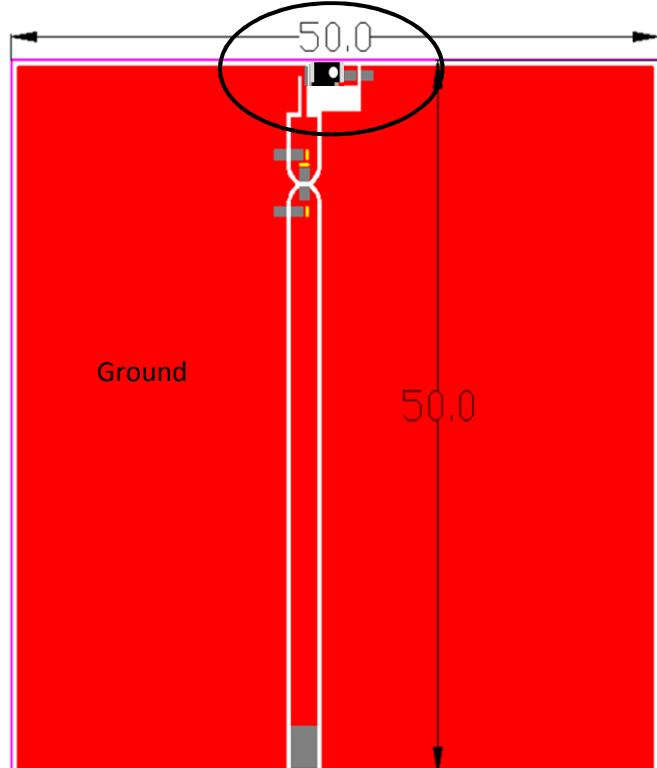
7 Electrical Characteristics:

| Part No. | Impedance (Ω) | Test Freq. (GHz) | Bandwidth* (MHz) | Peak Gain* (dBi) | VSWR (max) | Polarization (Linear) |
|--------------------|---------------------------|---------------------|---------------------|---------------------|---------------|--------------------------|
| BTCA00321608002G4E | 50 | 2.4 | 100 | 1 | 2 | Linear |

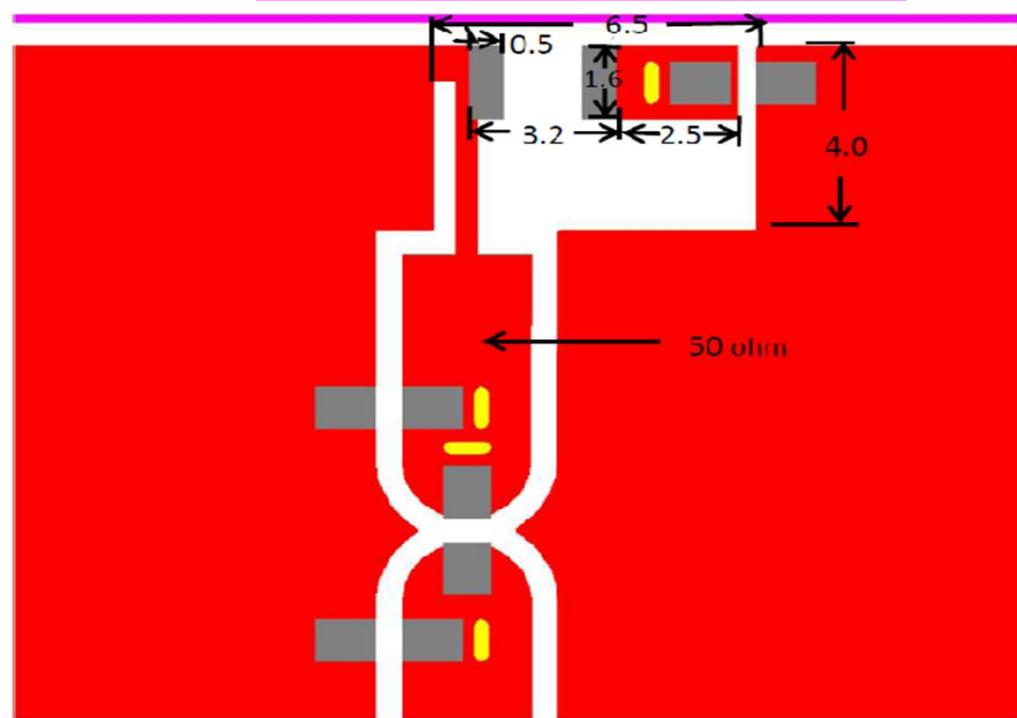
NOTE: *Depend on PCB layout.

Chip Series Specification

8 Dimensions and Recommended PC Board Pattern:

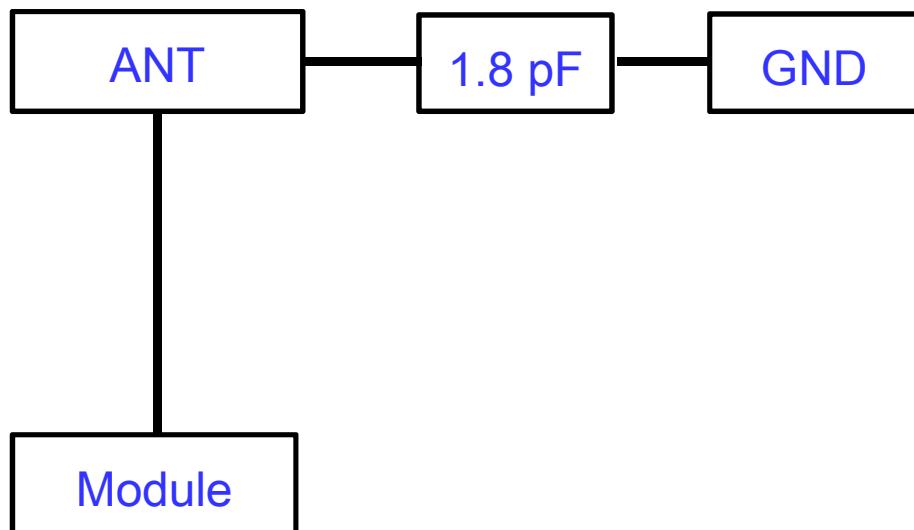


NOTE : Dimensions in mm

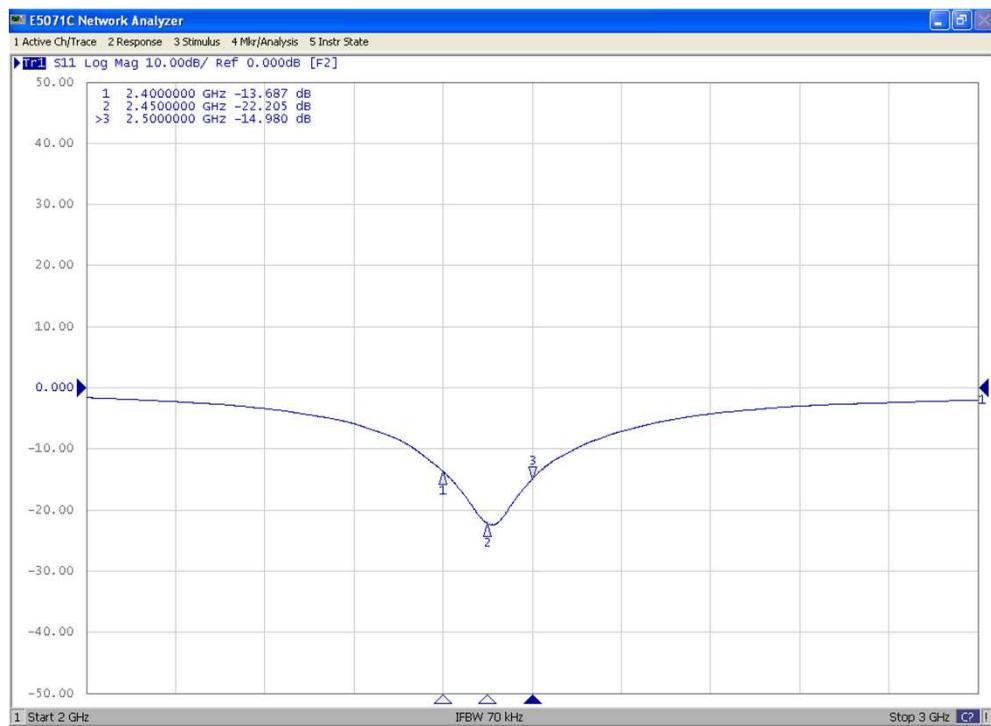


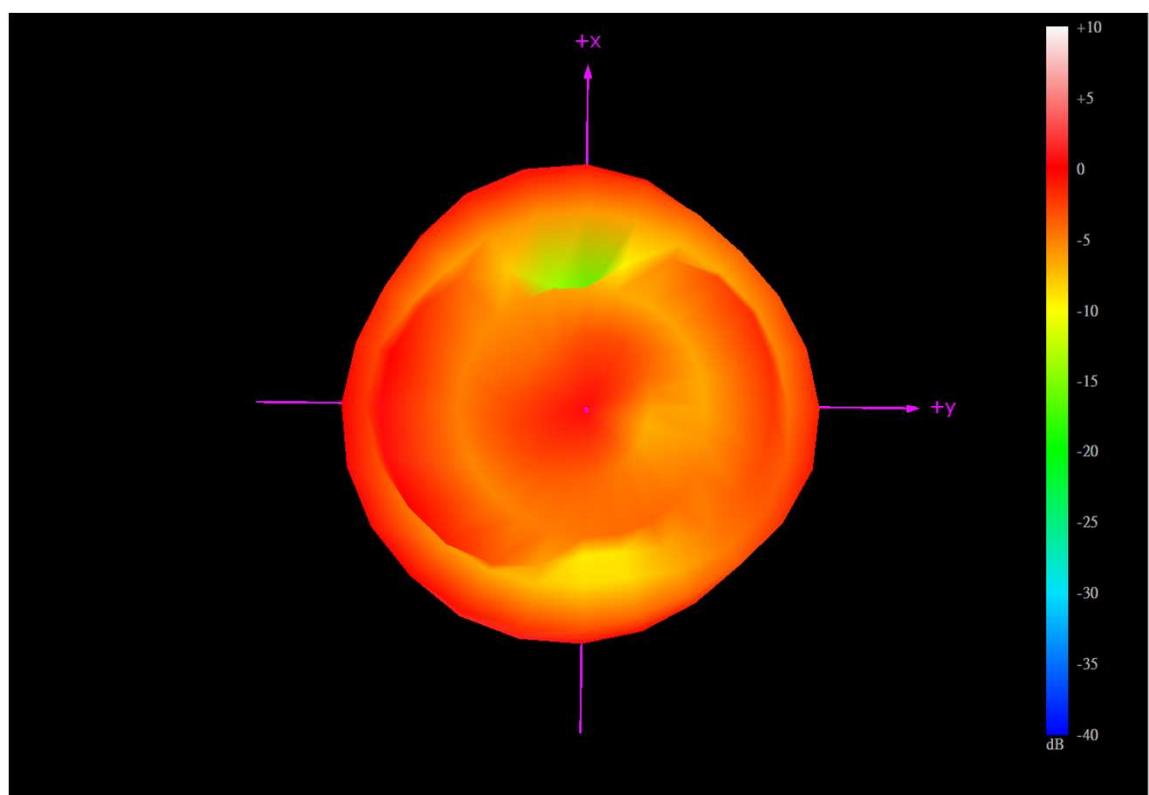
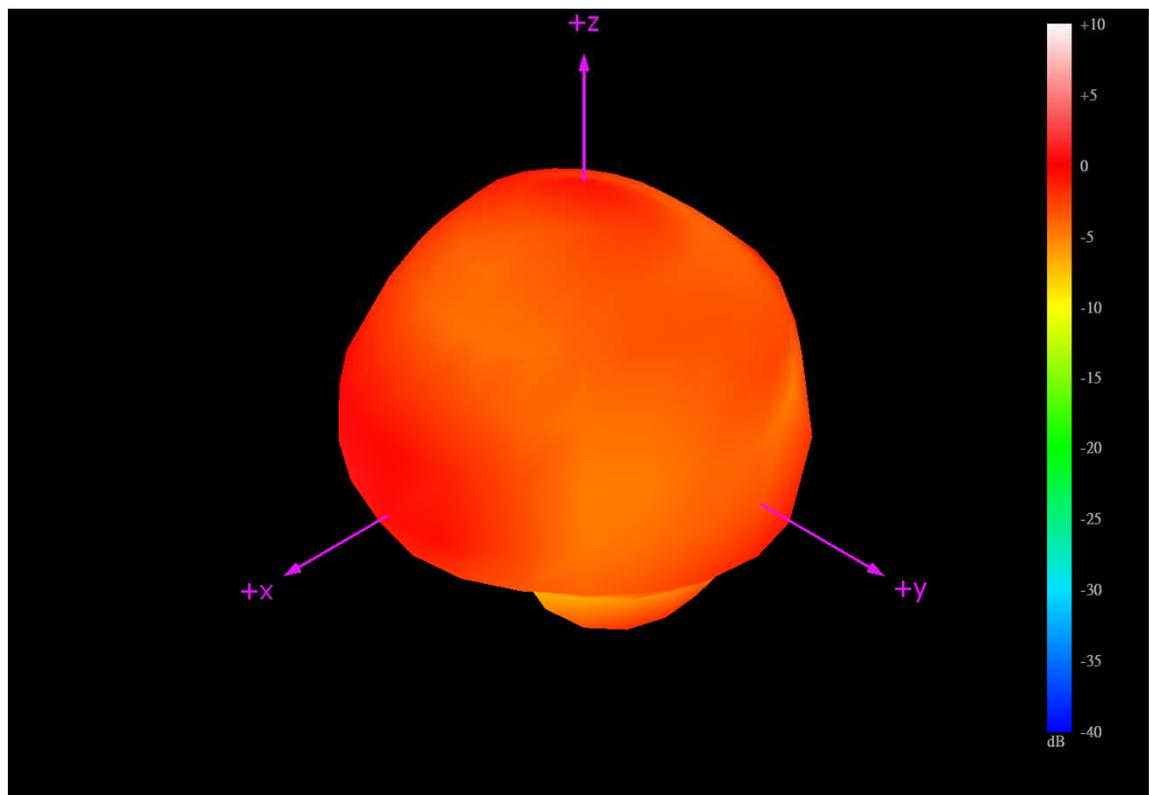
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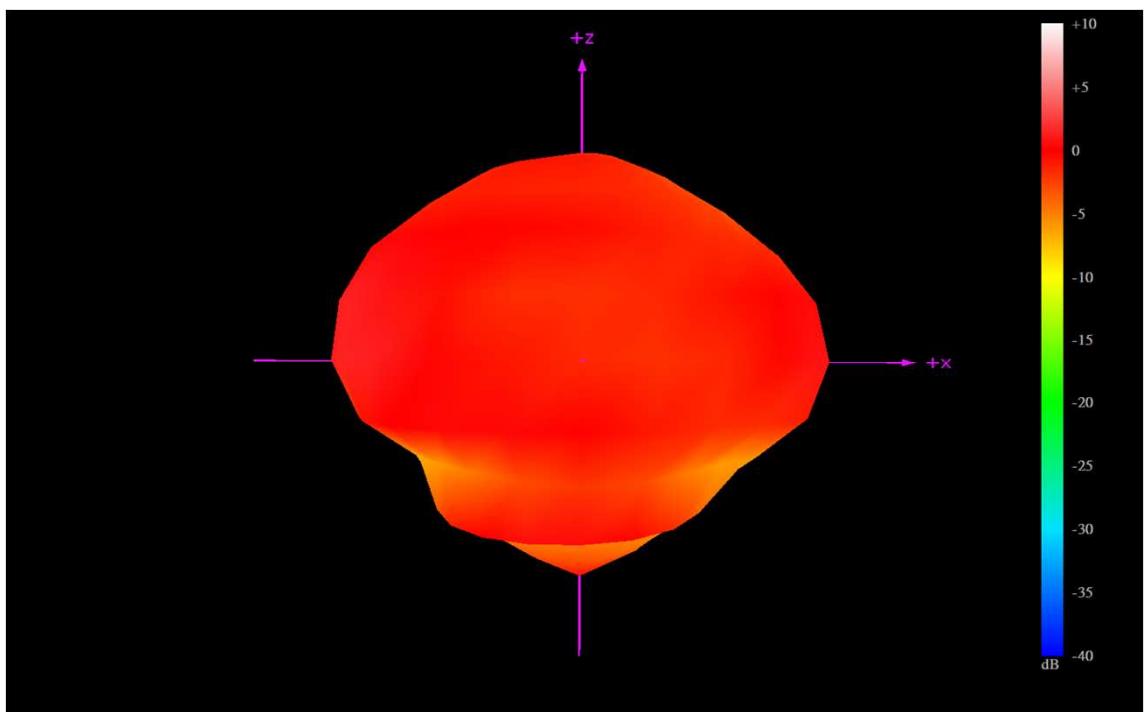
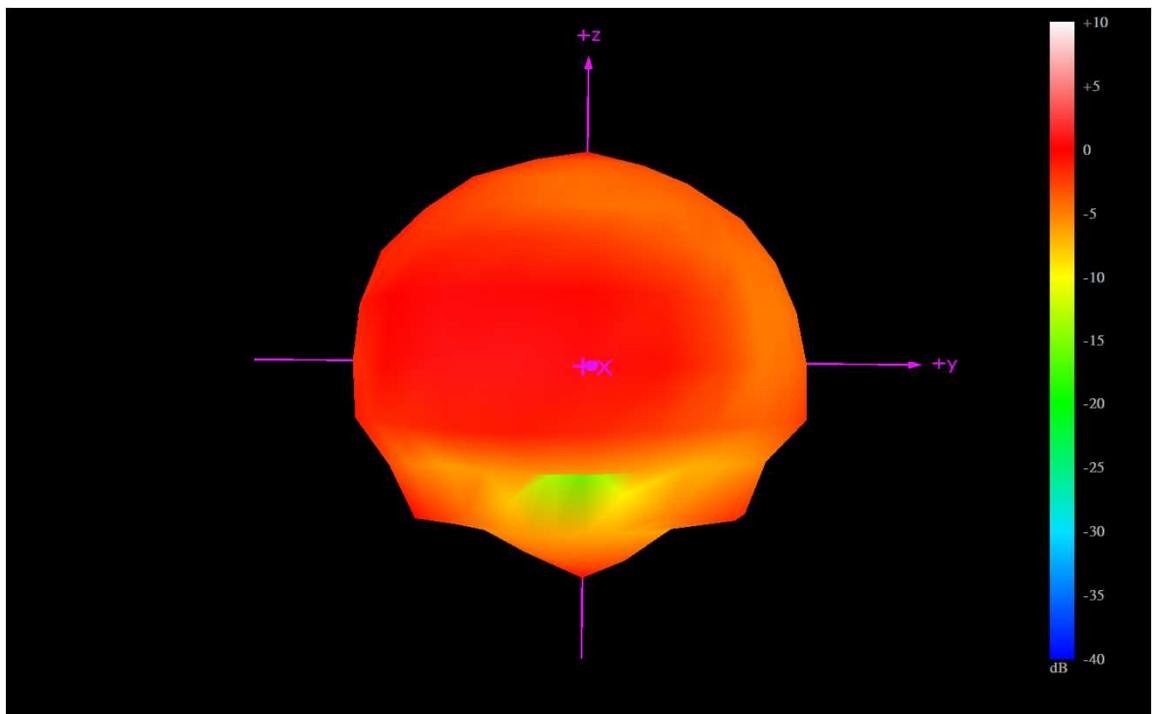
9 Matching Circuit:



Return Loss



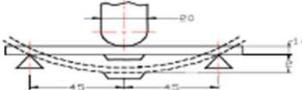
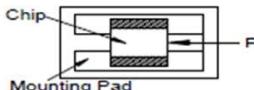




Chip Series Specification

10 Reliability Of Ferrite Multilayer Chip Bead

1-1.Mechanical Performance

| No | Item | Specification | Test Method |
|-------|------------------------------|---|---|
| 1-1-1 | Board Flex | The forces applied on the right conditions must not damage the terminal electrode and the ferrite | <p>Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 60 sec</p>  |
| 1-1-2 | Resistance to Soldering Heat | Meet the electrical Specification after test | <p>Refer to MIL-STD-202 Method 210 Pre-heating: 150-200°C, 60-100 sec Above 217°C, 60-150 secs Peak Temperature: 260±5°C, 20-40 sec Cycles : 2 times</p> |
| 1-1-3 | Solder ability | The electrodes shall be at least 95% covered with new solder coating | <p>Refer to J-STD-002 Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245±5°C (Pb-Free) Immersion Time: 4±1sec</p> |
| 1-1-4 | Terminal Strength Test | The chip must not damage the terminal electrode and the ferrite | <p>Test device shall be soldered on the substrate Force 2N for 60±1 seconds for 0603 series Force 5N for 60±1 seconds for 1005 series Force 10N for 60±1 seconds for 1608 series Force 1.8Kg for 60±1 seconds for the other series.</p>  |
| 1-1-5 | Vibration Test | Meet the electrical Specification after test | <p>Refer to MIL-STD-202 Method 204 Vibration waveform: Sine waveform Vibration frequency: 10Hz~2000Hz Vibration acceleration: 5g 10Hz~20KHz and back to 10Hz should be down in 20 minutes Duration of test: 12 cycles each of 3 orientations, 20 minutes for each cycle, 12 hr total Vibration axes: X, Y & Z</p> |
| 1-1-6 | Resistance to Solvent | There must be no change in appearance or obliteration of marking | <p>Refer to MIL-STD-202 Method 215 Inductors must withstand 6 minutes of alcohol or water.</p> |



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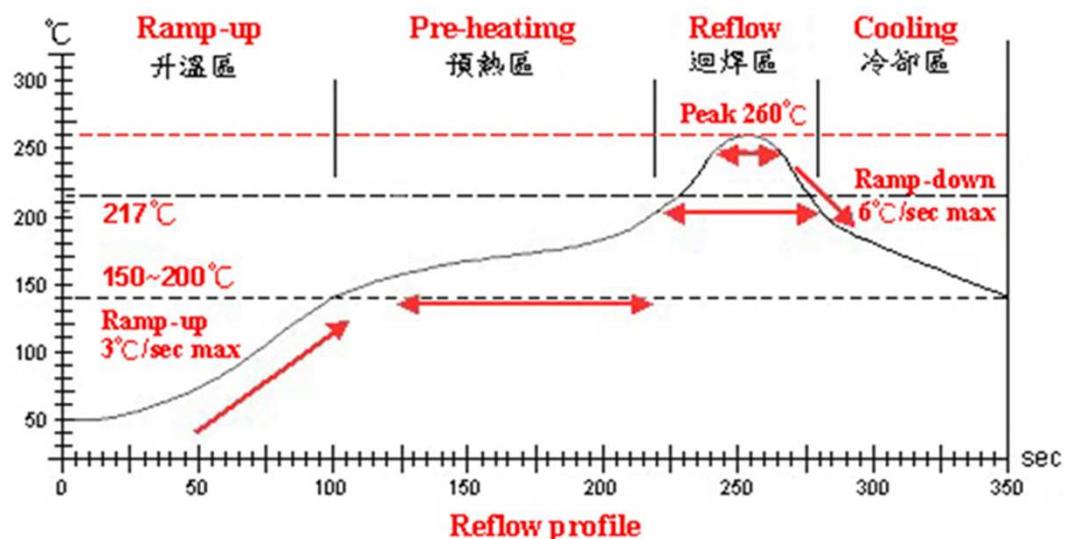
Chip Series Specification

10 Reliability Of Ferrite Multilayer Chip Bead

1-2. Environmental Performance

| No | Item | Specification | Test Method |
|-------|-------------------------------------|--|---|
| 1-2-1 | Temperature Cycle | Meet the electrical Specification after test | Refer to JESD Method JA-104 Total cycles: 1000 cycles 30 minutes exposure to -40°C 30 minutes exposure to 125°C 1 min. maximum transition between temperatures Measured after exposure in the room condition for 24hrs |
| 1-2-2 | Biased Humidity Resistance | | Refer to MIL-STD-202 Method 103 Temperature: 85±2°C Relative Humidity: 85% / Time: 1000hrs Measured after exposure in the room condition for 24hrs |
| 1-2-3 | High Temperature Exposure (Storage) | | Refer to MIL-STD-202 Method 108 Temperature: 125±3°C / Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs |
| 1-2-4 | Low Temperature Exposure (Storage) | Meet the electrical Specification after test | Refer to MIL-STD-202 Method 108 Temperature: -40±3°C / Relative Humidity : 0% Applied Current: Rated Current/ Time: 1000hrs Measured after exposure in the room condition for 24 hrs |

Chip Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

| 管制項目 Item. | 升溫區 Ramp-up | 預熱區 Pre-heating | 迴焊區 Reflow | Peak Temp | 冷卻區 Cooling |
|---------------------|----------------|--------------------|---------------|-------------|--------------------|
| 溫度範圍 Temp. scope | R.T. ~ 150°C | 150°C ~ 200°C | 217°C | 260±5°C | Peak Temp. ~ 150°C |
| 標準時間 Time spec. | — | 60 ~ 180 sec | 60 ~ 150 sec | 20 ~ 40 sec | — |
| 實際時間 Time result | — | 75 ~ 100 sec | 90 ~ 120 sec | 20 ~ 35 sec | — |

NOTE :

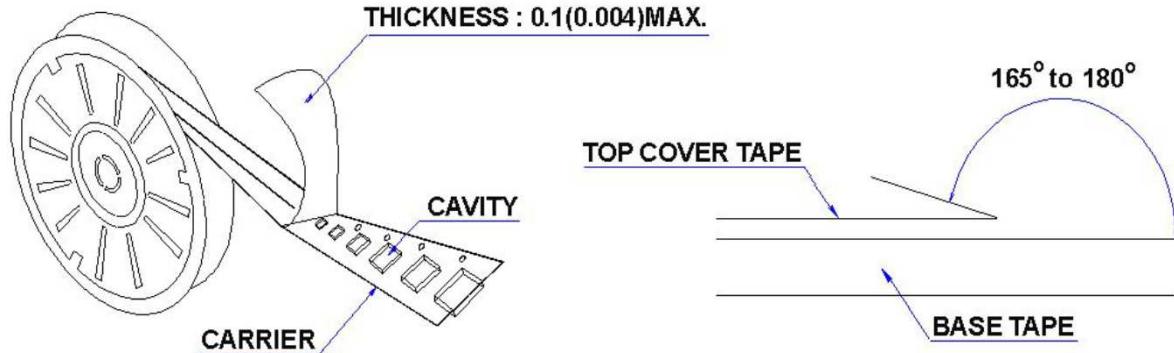
1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

Chip Series Specification

11 Packaging:

11.1 Packaging - Cover tape

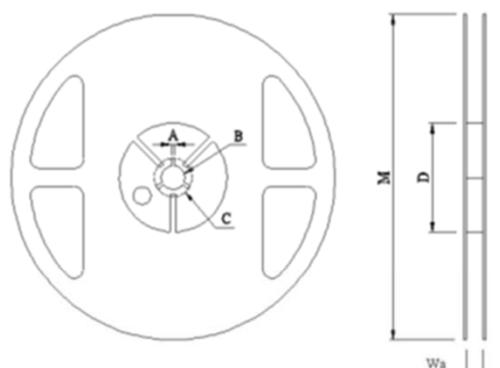
The force for tearing off cover tape is 10 to 60 grams in the arrow direction.



11.2 Packaging Quantity

| TYPE | BULK | PCS/REEL |
|------------|------|----------|
| BTCA321605 | X | 5000 |

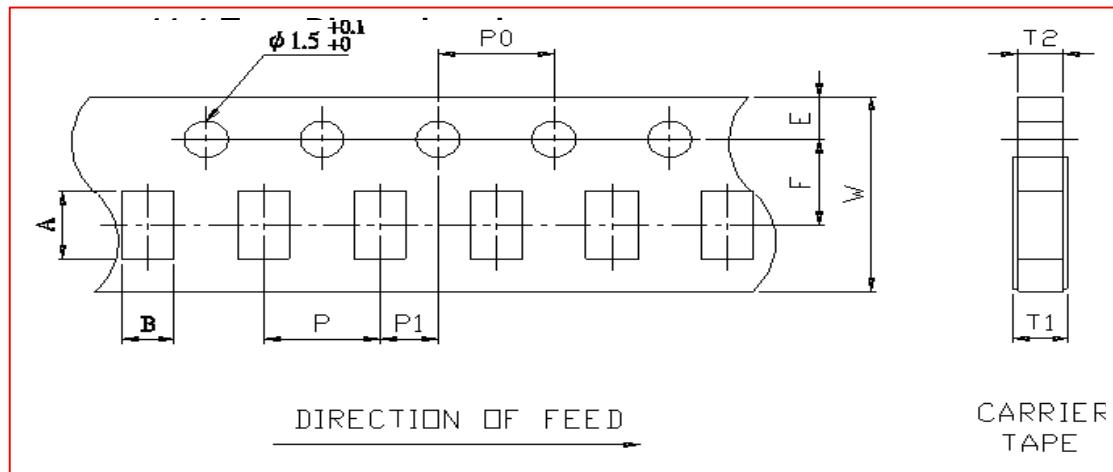
11.3 Reel Dimensions in mm



Unit: mm

| Reel Type / Tape | W | M | A | B | C | D |
|-----------------------|------------|-----------|-----------|------------|------------|------------|
| 7" reel for 8 mm tape | 12.00± 0.5 | 178 ± 1.0 | 2.0 ± 0.5 | 13.2 ± 0.5 | 17.7 ± 0.5 | 60.0 ± 1.0 |

Chip Series Specification



| Item | DIM | Unit: mm | | | | | | | | | | |
|------------|-----|-----------|-----------|----------|-----------|----------|-------------|-----------|----------|----------|-----------|----------|
| | | A | B | W | E | F | T1 | T2 | P | P0 | 10*P0 | P1 |
| BTCA321605 | | 3.50±0.20 | 1.90±0.20 | 8.0±0.20 | 1.75±0.10 | 3.5±0.05 | 0.75+0.2/-0 | 0.75±0.10 | 4.0±0.10 | 4.0±0.10 | 40.0±0.20 | 2.0±0.05 |

Note: The moisture sensitivity level (MSL) of products is classified as level 1.