# **FLYING** INTERNATIONAL

## **BU12B59 Series Specification**



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### 9 Reliability Of Ferrite Multilayer Chip Bead

#### 1-1.Mechanical Performance

1-2-2 Humidity Resistance

**Temperature Resistance** 

Temperature Resistance

1-2-3 High

1-2-4 Low

| No     | ltem                         | Specification                               | Test Method                                 |  |            |  |  |  |
|--------|------------------------------|---|---|--|------------|--|--|--|
| 1-1-1  | Flexure Strength             | The forces applied on the right             | Test device                                 | e shall be soldered on the substrate   |            |  |  |  |
|        |                              | conditions must not damage                  | Substrate                                   | Dimension: 100x40x1.6mm                | _          |  |  |  |
|        |                              | the terminal electrode and the              | Deflection:                                 | 2.0mm                                  |            |  |  |  |
|        |                              | ferrite                                     | Keeping Ti                                  | me: 30sec                              |            |  |  |  |
|        |                              |   | *For 10050                                  | 05, substrate dimension is 100x40x0.8r | nm         |  |  |  |
| 1-1-2  | Vibration                    |   | Test device                                 | e shall be soldered on the substrate   |            |  |  |  |
|        |                              |   | Oscillation                                 | Frequency: 10 to 55 to 10Hz for 1min   |            |  |  |  |
|        |                              |   | Amplitude:                                  | 1.5mm                                  |            |  |  |  |
|        |                              |   | Time: 2hrs                                  | for each axis (X, Y & Z), total 6hrs   |            |  |  |  |
| 1-1-3  | Resistance to Soldering Heat | Appearance: No damage                       | Pre-heating                                 | g: 150°C , 1min                        |            |  |  |  |
|        |                              | More than 75% of the terminal               | Solder Cor                                  | mposition: Sn/Pb = 63/37               |            |  |  |  |
|        |                              | electrode should be covered                 | Solder Cor                                  | mposition: Sn/Ag3.0/Cu0.5(Pb-Free)     |            |  |  |  |
|        |                              | with solder. Impedance :                    | Solder Ter                                  | nperature: 260±5℃                      |            |  |  |  |
|        |                              | within ±30% of initial value                | Immersion                                   | Time: 10±1sec                          |            |  |  |  |
| 1-1-4  | Solder ability               | The electrodes shall be at                  | Pre-heating                                 | g: 150℃, 1min                          |            |  |  |  |
|        |                              | least 90% covered with new                  | Solder Composition: Sn/Pb = 63/37           |  |            |  |  |  |
|        |                              | solder coating                              | Solder Temperature: $220\pm5^{\circ}$ C     |  |            |  |  |  |
|        |                              |   | Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) |  |            |  |  |  |
|        |                              |   | Solder Temperature: 245±5°C (Pb-Free)       |  |            |  |  |  |
|        |                              |   | Immersion                                   | Time: 4±1sec                           |            |  |  |  |
| 1-1-5  | Terminal Strength Test       | 100505 series : $\geq$ 0.2 kg               | Test device                                 | e shall be soldered on the substrate   |            |  |  |  |
|        |                              | 160808 series : $\geq$ 0.5 kg               |   |  |            |  |  |  |
|        |                              | 201209 series : $\geq$ 1.0 kg               | 1   |  |            |  |  |  |
|        |                              | other series : $\geq$ 2.0 kg                | 1   |  |            |  |  |  |
|        |                              | BAY/BAQ321609 series: $\geq 1.5 \text{ kg}$ | C1  |  |            |  |  |  |
|        |                              | (Push)                                      |   |  |            |  |  |  |
| 1-2.Er | vironmental Performance      |   |   |  |            |  |  |  |
| No     | ltem                         | Specification                               |   | Test Method                            |            |  |  |  |
| 1-2-1  | Temperature Cycle            | Appearance: No damage                       | One cycle:                                  |  | -          |  |  |  |
|        |                              | Impedance: within±30% of                    | Step  | Temperature (°C)                       | Time (min) |  |  |  |
|        |                              | initial value                               | 1   | -55±3                                  | 30         |  |  |  |
|        |                              |   | 2   | 25±2                                   | 3          |  |  |  |
|        |                              |   | 3   | 125±3                                  | 30         |  |  |  |
|        |                              |   | 4   | 25±2                                   | 3          |  |  |  |
|        |                              |   | Total: 1000                                 | cycles                                 |            |  |  |  |

|  | Total: TUUCycles   |
|--|--|
|  | Measured after exposure in the room condition for 24hrs  |
|  | Temperature: 40±2°C                                      |
|  | Relative Humidity: 90 ~ 95% / Time: 1000hrs              |
|  | Measured after exposure in the room condition for 24hrs  |
|  | Temperature: $125\pm3^{\circ}$ C / Relative Humidity: 0% |
|  | Applied Current: Rated Current /Time: 1000hrs            |
|  | Measured after exposure in the room condition for 24hrs  |
|  | Temperature: -55±3°C                                     |
|  | Relative Humidity: 0% / Time: 1000hrs                    |

Measured after exposure in the room condition for 24hrs

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#### **10** Test Data For Preproduction Samples

#### DESCRIPTION: BU12B591S70R

| м    | EAS.     | z        | RDC     | Α         | В         | с         | D         |  |  |
|------|----------|----------|---------|-----------|-----------|-----------|-----------|--|--|
|      | tem      | (Ω)      | (Ω)     | m/m       | m/m       | m/m       | m/m       |  |  |
| Spec | Customer | 70±25%   |         |           |           |           |           |  |  |
|      | Suggest  |          | 0.004   | 4.50±0.20 | 3.20±0.20 | 1.50±0.20 | 0.60~1.00 |  |  |
| Tes  | t Freq.  |          |         |           |           |           |           |  |  |
| (    | MHz)     | 60mV/100 |         |           |           |           |           |  |  |
|      | 1        | 71       | 0.0021  | 4.52      | 3.18      | 1.52      | 0.68      |  |  |
|      | 2        | 72       | 0.0028  | 4.48      | 3.16      | 1.51      | 0.67      |  |  |
|      | 3        | 64       | 0.0022  | 4.51      | 3.19      | 1.52      | 0.68      |  |  |
|      | 4        | 65       | 0.0021  | 4.52      | 3.18      | 1.48      | 0.65      |  |  |
|      | 5        | 63       | 0.0022  | 4.46      | 3.17      | 1.52      | 0.69      |  |  |
|      | 6        | 63       | 0.0022  | 4.48      | 3.21      | 1.47      | 0.68      |  |  |
|      | 7        | 62       | 0.0024  | 4.47      | 3.20      | 1.48      | 0.68      |  |  |
|      | 8        | 65       | 0.0028  | 4.52      | 3.18      | 1.48      | 0.69      |  |  |
|      | 9        | 71       | 0.0022  | 4.47      | 3.20      | 1.51      | 0.68      |  |  |
|      | 10       | 62       | 0.0024  | 4.48      | 3.21      | 1.52      | 0.67      |  |  |
|      | 11       |          |         |           |           |           |           |  |  |
|      | 12       |          |         |           |           |           |           |  |  |
|      | 13       |          |         |           |           |           |           |  |  |
|      | 14       |          |         |           |           |           |           |  |  |
|      | 15       |          |         |           |           |           |           |  |  |
|      | X        | 65.8     | 0.00234 | 4.491     | 3.188     | 1.501     | 0.677     |  |  |
|      | R        | 10       | 0.0007  | 0.06      | 0.05      | 0.05      | 0.04      |  |  |

#### TEST INSTRUMENT:

HP4291A RF IMPEDANCE / MATERIAL ANALYZER FOR Z

CHEN HWA 502BC / HP4338B FOR RDC

#### APPEARANCE AND DIMENSIONS :

SPEC : MEET ITEM 6.

TEST METHOD : VISUAL INSPECTION AND MEASURED WITH SILDE CALIPERS.

#### TESTING CONDITIONS :

|             | Unless otherwise specified                | In case of doubt |
|-------------|---|------------------|
| Temperature | Ordinary Temperature (15 to $35^\circ$ C) | <b>20 ± 2</b> ℃  |
| Humidity    | Ordinary Humidity (25 to 85 %RH)          | 60 to 70 %RH     |
|             |   |                  |

#### 11 Packaging

#### 11.1 Packaging -Cover tape



The force for tearing off cover tape is 15 to 60 grams in the arrow direction.



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#### 11 Packaging

- 11.2 Packaging Quantity 1000PCS/REEL
- **11.3 Reel Dimensions**





單體重量(Kg): 最小包裝重(卷重)(Kg):

11.4 Tape Dimensions in mm

|        |      |      | UD5-Type A | Type B | 0.05 |            | mm MIN      | rial<br>: polystyrer<br>polyethyler |
|--------|------|------|------------|--------|------|------------|-------------|-------------------------------------|
| TYPE   | 6    | в    | T          | w      | р    | L Cove     | r lape<br>K | Tane Typ                            |
| 02 19  | 0.65 | 1.15 | 0.60       | 8      | 2    | 3.5        | ~           | В                                   |
| 03 31  | 1.00 | 1.80 | 0.95       | 8      | 4    | 3.5        | 1           | в                                   |
| _05_35 | 1.42 | 2.30 | 1.04       | 8      | 4    | 3.5        | 0.22        | А                                   |
| _05_47 | 1.40 | 2.25 | 1.40       | 8      | 4    | 3.5        | 0.22        | А                                   |
| _06_43 | 1.00 | 0.50 | 1.27       | 0      | 4    | <b>0.5</b> | 0.22        | A                                   |
| _06_63 | 1.88 | 3.61 | 1.78       | 8      | 4    | 3.5        | 0.22        | А                                   |
| _10_51 | 2.80 | 3.42 | 1.64       | 8      | 4    | 3.5        | 0.22        | A                                   |
| _18_63 | 1.94 | 4.94 | 1.90       | 12     | 4    | 5.5        | 0.22        | A                                   |
|        |      | _    |            |        | _    |            | _           |                                     |

#### 11.5 Recommended Pattern



#### 12 Note:

- 1. Please make sure that your product is has been evaluated and confirmed against your specifications when our product is mounted to your product.
- 2. Do not knock nor drop.
- 3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
- 4. Please keep the distance between transformer/coil and other components (refer to the standard IEC 950)

