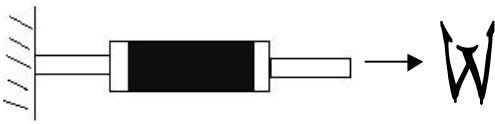


**SMD Multilayer Ferrite Chip Beads**

SB/PB/NB/GB/UPB/BA Series

1-1.Mechanical Performances

| No    | Item                         | Specification                                                                                                                                   | Test Method                                                                                                                                                                                                 |
|-------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-1-1 | Flexure Strength             | The forces applied on the right conditions must not damage the terminal electrode and the ferrite                                               | Test device shall be soldered on the substrate<br>Substrate Dimension: 100x40x1.6mm<br>Deflection: 2.0mm<br>Keeping Time: 30sec<br>*For 100505, substrate dimension is 100x40x0.8mm                         |
| 1-1-2 | Vibration                    |                                                                                                                                                 | Test device shall be soldered on the substrate<br>Oscillation Frequency: 10 to 55 to 10Hz for 1min<br>Amplitude: 1.5mm<br>Time: 2hrs for each axis (X, Y & Z), total 6hrs                                   |
| 1-1-3 | Resistance to Soldering Heat | Appearance: No damage<br>More than 75% of the terminal electrode should be covered with solder.<br>Impedance: within ±80% of initial value      | Pre-heating: 150 , 1min<br>Solder Composition: Sn / Pb = 63/37<br>Solder Composition:Sn/Ag3.0/Cu0.5(Pb-Free)<br>Solder Temperature: 260 ±5<br>Immersion Time: 10 ±sec                                       |
| 1-1-4 | Solder ability               | The electrodes shall be at least 90% covered with new solder coating                                                                            | Pre-heating: 150 , 1min<br>Solder Composition: Sn / Pb = 63/37<br>Solder Temperature: 220 ±5<br>Solder composition:Sn/Ag3.0/Cu0.5(Pb-Free)<br>Solder Temperature:245 ±5 (Pb-Free)<br>Immersion Time: 4 ±sec |
| 1-1-5 | Terminal Strength Test       | 100505 series : 0.2 kg<br>160808 series : 0.5 kg<br>201209 series : 1.0 kg<br>other series : 2.0 kg<br>(BAY/BAQ)321609 series : 1.5 kg ( Push ) | Test device shall be soldered on the substrate<br>                                                                      |

## Reliability Test - SB/PB/NB/GB/UPB/BA Series

### 1-2.Environmental Performances

| No    | Item                | Specification                                                   | Test Method                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |
|-------|---------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------|------------|---|-------|----|---|------|---|---|-------|----|---|------|---|
| 1-2-1 | Temperature Cycle   | Appearance: No damage<br>Impedance: within ±0% of initial value | One cycle: <table border="1" data-bbox="627 293 984 465"> <thead> <tr> <th>Step</th> <th>Temperature ( °C )</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55 ±</td> <td>30</td> </tr> <tr> <td>2</td> <td>25 ±</td> <td>3</td> </tr> <tr> <td>3</td> <td>125 ±</td> <td>30</td> </tr> <tr> <td>4</td> <td>25 ±</td> <td>3</td> </tr> </tbody> </table> Total: 100cycles<br>Measured after exposure in the room condition for 24hrs | Step | Temperature ( °C ) | Time (min) | 1 | -55 ± | 30 | 2 | 25 ± | 3 | 3 | 125 ± | 30 | 4 | 25 ± | 3 |
| Step  | Temperature ( °C )  | Time (min)                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |
| 1     | -55 ±               | 30                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |
| 2     | 25 ±                | 3                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |
| 3     | 125 ±               | 30                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |
| 4     | 25 ±                | 3                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |
| 1-2-2 | Humidity Resistance |                                                                 | Temperature: 40 ±<br>Relative Humidity: 90 ~ 95%<br>Time: 1000hrs<br>Measured after exposure in the room condition for 24hrs                                                                                                                                                                                                                                                                                                                              |      |                    |            |   |       |    |   |      |   |   |       |    |   |      |   |