Hold the lead wires as in Fig-3. Bend by 90 degrees and again bend back to the initial position. Then bend to the other side by 90 degrees and again bend back to the initial position. After bending process, 10N force for 3 seconds shall be applied to the lead wire.

Fig-3

10 Lead Wire Bending Strength
- Lead wire does not break.

10 Lead Wire Pull Strength
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

2mm length of coating resin from the top of Thermistor is to be dipped into beads of lead (Pb), and DC100V 1 minute is applied to circuit between beads of lead (Pb) and lead wire.

Fig-1

5 High Temperature Load
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

2mm length of coating resin from the top of Thermistor is to be dipped into beads of lead (Pb), and DC100V 1 minute is applied to circuit between beads of lead (Pb) and lead wire.

Fig-1

7 Resistance to Soldering Heat
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

8 Solderability
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

10 Lead Wire Pull Strength
- Resistance (R25°C) fluctuation rate: less than ±1%.
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Fig-1

6 Insulation Break-down Voltage
- No damage electrical characteristics at DC100 V, 1 min.

85±2°C in air, with ‘Operating Current for Sensor’ for 1000 +48/-0 hrs.

Fig-2

1 N (10 sec.)

1 Low Temperature Storage Test
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

-40 +0/-3°C in air, for 1000 +48/-0 hours without loading.

Fig-2

2 High Temperature Storage Test
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

125±2°C in air, for 1000 +48/0 hours without loading.

Fig-2

3 Humidity Storage Test
- Resistance (R25°C) fluctuation rate: less than ±2%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

60±2°C, 90 to 95%RH in air, for 1000 +48/-0 hours without loading.

Fig-2

4 Temperature Cycle
- Resistance (R25°C) fluctuation rate: less than ±2%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

-40 +0/-3°C, 30 minutes in air
+25±2°C, 10 to 15 minutes in air
+125±2°C, 30 minutes in air
+25 +2/-0°C, 10 to 15 minutes in air (1 cycle)
Continuous 100 cycles, without loading.

Fig-2

5 High Temperature Load
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

85±2°C in air, with ‘Operating Current for Sensor’ for 1000 +48/-0 hrs.

Fig-2

1 Solderability
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

1 to 2mm

Fig-2

2 Low Temperature Storage Test
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

-40 +0/-3°C in air, for 1000 +48/-0 hours without loading.

Fig-2

3 Humidity Storage Test
- Resistance (R25°C) fluctuation rate: less than ±2%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

60±2°C, 90 to 95%RH in air, for 1000 +48/-0 hours without loading.

Fig-2

4 Temperature Cycle
- Resistance (R25°C) fluctuation rate: less than ±2%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

-40 +0/-3°C, 30 minutes in air
+25±2°C, 10 to 15 minutes in air
+125±2°C, 30 minutes in air
+25 +2/-0°C, 10 to 15 minutes in air (1 cycle)
Continuous 100 cycles, without loading.

Fig-2

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- Resistance (R25°C) fluctuation rate: less than ±1%.
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Fig-2

6 Insulation Break-down Voltage
- No damage electrical characteristics at DC100 V, 1 min.

2mm length of coating resin from the top of Thermistor is to be dipped into beads of lead (Pb), and DC100V 1 minute is applied to circuit between beads of lead (Pb) and lead wire.

Fig-1

7 Resistance to Soldering Heat
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

Both lead wires are dipped into 350±10°C solder for 3.5±0.5 seconds, or 260±5°C solder for 10±1 seconds according to Fig-1 (solder <JIS Z 3282 SnAgCu>).

Fig-1

8 Solderability
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

More than 90% of lead wire surface shall be covered by solder.

Both lead wires are dipped into flux (25wt% colophony <JIS K 5902> isopropyl alcohol <JIS K 8839>) for 5 to 10 seconds. Then both lead wires are dipped into 245±5°C solder <JIS Z 3282 SnAgCu> for 2±0.5 seconds according to Fig-1.

Fig-1

9 Lead Wire Pull Strength
- Resistance (R25°C) fluctuation rate: less than ±1%.
- B-Constant (B25/50°C) fluctuation rate: less than ±1%.

The lead wire shall be inserted in a ø1.0mm hole until resin part contacts with a substrate as shown in fig.-2, and 1N force for 10 seconds shall be applied to the lead wire.

Fig-2

10 Lead Wire Bending Strength
- Lead wire does not break.

Hold the lead wires as in Fig-3. Bend by 90 degrees and again bend back to the initial position. Then bend to the other side by 90 degrees and again bend back to the initial position. After bending process, 10N force for 3 seconds shall be applied to the lead wire.

Fig-3

* R25 is zero-power resistance at 25°C.
  B25/50 is calculated by zero-power resistance of Thermistor in 25°C-50°C.
  After each test, NTC Thermistor should be kept for 1 hour at room temperature (normal humidity and normal atmospheric pressure).

Continued on the following page
NTC Thermistor shall be fixed to the vibration test equipment. Vibration of total 1.5 mm amplitude, Frequency sequence of 10Hz - 55Hz - 10Hz in 1 minute shall be applied for right angled 3 directions for 2 hours duration each.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Specifications</th>
<th>Test Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Free Fall</td>
<td></td>
<td>NTC Thermistor shall be dropped without any force onto concrete floor from 1 meter height one time.</td>
</tr>
<tr>
<td>12</td>
<td>Vibration</td>
<td>- Resistance (R25°C) fluctuation rate: less than ±1%.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- B-Constant (B25/50°C) fluctuation rate: less than ±1%.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- No visible damage at resin part.</td>
<td></td>
</tr>
</tbody>
</table>

* R25 is zero-power resistance at 25°C.
* B25/50 is calculated by zero-power resistance of Thermistor in 25°C-50°C.
* After each test, NTC Thermistor should be kept for 1 hour at room temperature (normal humidity and normal atmospheric pressure).