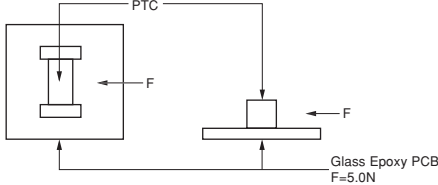


■ PRG18/21BC Series

| No.  | Item                       | Rating Value  | Method of Examination  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
|------|----------------------------|---|--|------|------------|-------------|---|------------|----|---|------------|-------|---|------------|----|---|------------|
| 1    | Operating Temp.            | -10 to 60°C   | Temperature range with maximum voltage applied to PTC.   |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 2    | Resistance Value (at 25°C) | The resistance value should be within the specified tolerance.                              | After leaving for 24 hrs. or more in 25°C, it measures by 4 wire measuring methods using the direct-current terminal current of 10mA or less (0.1 or less Vdcs).   |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 3    | Withstanding Voltage       | Without damage  | We apply 120% of the maximum operating voltage to PTC by raising gradually for 180±5 secs. at 25°C. (A protective resistor is to be connected in series, and the inrush current through PTC must be limited below maximum rated value.)  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 4    | Adhesive Strength          | There is no sign of exfoliation on electrode.   | EIAJ ET-7403 term 9<br>Soldered PTC to PCB and add a force of 5.0N in the direction as shown below.<br>  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 5    | Vibration                  | Normal appearance<br>Resistance change: not to exceed ±20% (*)                              | JIS C 5102 term 8.2<br>Soldered PTC to PCB<br>Vibration: A 10-55-10Hz (1 min.)<br>Width: 1.5mm<br>Vibrate for 2 hrs. in each of 3 mutually perpendicular planes for a total of 6 hrs.  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 6    | Solderability              | Min. 75% electrode is covered with new solder.<br>Resistance change: not to exceed ±20% (*) | JIS C 5102 term 8.4<br>Solder: Sn-3Ag-0.5Cu<br>Solder temp: 245±5°C<br>Soaking time: 3±0.5 secs.<br>Soaking position: Until a whole electrode is soaked.   |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 7    | Soldering Heat Resistance  | Normal appearance<br>Resistance change: not to exceed ±20% (*)                              | Solder: Sn-3Ag-0.5Cu<br>Flux: Solder paste containing less than 0.2wt% of chlorine.<br>Preheating: 150±5°C 3 mins.<br>Peak temp.: 260±5°C 10±5 secs. (reflow)<br>PCB: Glass Epoxy PCB (JIS C 6484)   |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 8    | Dry Heat                   | Normal appearance<br>Resistance change: not to exceed ±20% (*)                              | 60±3°C leave for 1000±12 hrs.  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 9    | Cold                       |   | -10±3°C leave for 1000±12 hrs.   |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 10   | Damp Heat                  |   | 60±2°C, 90-95%RH leave for 500±4 hrs.  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 11   | Temperature Cycling        |   | JIS C 5102 term 9.3<br>Times: 5 cycles<br><table border="1" data-bbox="938 1444 1321 1570"> <thead> <tr> <th>Step</th> <th>Temp. (°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-20 +0, -3</td> <td>30</td> </tr> <tr> <td>2</td> <td>Room temp.</td> <td>10-15</td> </tr> <tr> <td>3</td> <td>+85 +3, -0</td> <td>30</td> </tr> <tr> <td>4</td> <td>Room temp.</td> <td>10-15</td> </tr> </tbody> </table> | Step | Temp. (°C) | Time (min.) | 1 | -20 +0, -3 | 30 | 2 | Room temp. | 10-15 | 3 | +85 +3, -0 | 30 | 4 | Room temp. |
| Step | Temp. (°C)                 | Time (min.)   |  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 1    | -20 +0, -3                 | 30  |  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 2    | Room temp.                 | 10-15   |  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 3    | +85 +3, -0                 | 30  |  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 4    | Room temp.                 | 10-15   |  |      |            |             |   |            |    |   |            |       |   |            |    |   |            |
| 12   | High Temperature Load      |   | 60±3°C (in air), PTC is applied maximum operating voltage for 1.5 hrs. on and 0.5 hrs. off. This cycle is repeated for 500±10 hrs.   |      |            |             |   |            |    |   |            |       |   |            |    |   |            |

(\*) The resistance measurement after the test.

After leaving for 24 hours or more in 25±2°C, it measures by 4 wire measuring methods using the direct-current terminal current of 10mA or less (0.1 or less Vdcs).

Above mentioned soldering in "4. Adhesive Strength" and "5. Vibration" is done under the following conditions at our site.

- Glass-Epoxy PC board
- Standard land dimension
- Standard solder paste
- Standard solder profile

Above conditions are mentioned in Notice.

## Данный компонент на территории Российской Федерации

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