

## ■ PRG18/21BB 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	Within the specified range	After applying maximum operating voltage for 3 mins. and leaving for 2 hours in 25°C, measured by applying voltage less than DC1.5V. (by a direct current less than 10mA)									
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.	Reference standard: IEC 60068-2-21 (2006) · Soldered PTC to PCB (**) · Force: 5.0N · Test time: 10 sec.									
5	Vibration	· Appearance: No defects or abnormalities · Resistance (R25) change: Less than ±20% (*)	Reference standard: IEC 60068-2-6 (2007) · Soldered PTC to PCB (**) · Frequency range: 10 to 55Hz · Amplitude: 1.5mm · Sweep rate: 1 octave/min. · Direction: X-Y-Z (3 direction) · 24 cycles in each axis									
6	Solderability	Wetting of soldering area: ≥75%	Reference standard: IEC 60068-2-58 (2004) · Solder: Sn-3.0Ag-0.5Cu · Solder temp.: 245±5°C · Immersion time: 3±0.3s									
7	Resistance to Soldering Heat	· Appearance: No defects or abnormalities · Resistance (R25) change: Less than ±20% (*)	Reference standard: IEC 60068-2-58 (2004) [Reflow method] · Solder: Sn-3.0Ag-0.5Cu · Preheat: +150 to +180°C, 120+/-5s · Peak temp: 260+/-5°C · Soldering time: ≥220°C, 60 to 90s · Reflow cycle: 1 time · Test board: Glass-Epoxy test board (FR-4) with our standard land size									
8	High Temperature Storage		Reference standard: IEC 60068-2-2 (2007) · Soldered PTC to PCB (**) · +60±2°C · 1000+48/-0 hrs.									
9	Low Temperature Storage		Reference standard: IEC 60068-2-1 (2007) · Soldered PTC to PCB (**) · -10±3°C · 1000+48/-0 hrs									
10	Damp Heat, Steady State		Reference standard: IEC 60068-2-67 (1995) · Soldered PTC to PCB (**) · +40±2°C, 90±5%RH · 500+24/-0 hrs									
11	Thermal Shock	· Appearance: No defects or abnormalities · Resistance (R25) change: Less than ±20% (*)	Reference standard: IEC 60068-2-14 (2009) [ Test Na ] · Soldered PTC to PCB (**) · Transport time: <10 sec. · Test condition: See below table <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Condition</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-20±3°C</td> <td>30min.</td> </tr> <tr> <td>2</td> <td>+85±2°C</td> <td>30min.</td> </tr> </tbody> </table> · Test cycle: 5 cycles	Step	Condition	Time	1	-20±3°C	30min.	2	+85±2°C	30min.
Step	Condition	Time										
1	-20±3°C	30min.										
2	+85±2°C	30min.										
12	High Temperature Load		Reference standard: IEC 60068-2-2 (2007) · Soldered PTC to PCB (**) · +60±2°C · Applied voltage: See below table <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Voltage</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Max. voltage</td> <td>1.5hrs.</td> </tr> <tr> <td>2</td> <td>OFF</td> <td>0.5hrs.</td> </tr> </tbody> </table> · 500+24/-0 hrs.	Step	Voltage	Time	1	Max. voltage	1.5hrs.	2	OFF	0.5hrs.
Step	Voltage	Time										
1	Max. voltage	1.5hrs.										
2	OFF	0.5hrs.										

\*: The resistance value after the test. It is measured by applying voltage less than DC1.5V (by a direct current less than 10mA) after left at 25±2°C for 2hrs.

\*\* : Above mentioned soldering is done under the following conditions at our side.

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

Above conditions are mentioned in Notice.