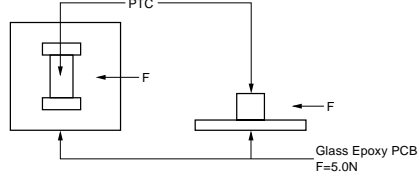


## ■ 24/20V Series

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 applying maximum operating voltage for 3 mins. and leaving for 2 hrs. in 25°C, measured by applying voltage of less than 1.5Vdc (by a direct current of less than 10mA).															
3	Withstanding Voltage	Without damage	We apply 120% of the maximum operating voltage to PTC by rising 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 exfoliation sign of electrode.	<p>EIAJ ET-7403 term 9 Soldered PTC to PCB and add the force of 5.0N in the direction as shown below.</p>  <p style="text-align: right;">Glass Epoxy PCB F=5.0N</p>															
5	Vibrationability	Normal appearance Resistance change: not to exceed ±20% (*)	<p>JIS C 5102 term 8.2 Soldered PTC to PCB Vibration: A 10-55-10Hz (1 min.) Width: 1.5mm Vibrate for 2 hrs. in each of 3 mutually perpendicular planes for a total of 6 hrs.</p>															
6	Solderability	Min. 75% electrode is covered with new solder. Resistance change: not to exceed ±20% (*)	<p>JIS C 5102 term 8.4 Solder: Sn 63%/Pb 37% (or 60/40%) Solder temp: 230±5°C Soaking time: 3±0.5 s. Soaking position: Until a whole electrode is soaked</p>															
7	Solder-heatability	Normal appearance Resistance change: not to exceed ±20% (*)	<p>Solder: Sn 63%/Pb 37% (or 60/40%) Flux: Solder paste containing less than 0.2wt% of chlorine. Preheating: 150±5°C 3mins. Peak temp.: 260±5°C 10±5 s. (reflow) PCB: Glass Epoxy PCB (JIS C 6484)</p>															
8	Temperature Cycling	Normal appearance Resistance change: not to exceed ±20% (*)	<p>JIS C 5102 term 9.3 Times: 5 cycles</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <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.	10-15
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9	Humidity Test	Normal appearance Resistance change: not to exceed ±20% (*)	JIS C 5102 term 9.5 40±2°C, 90-95%RH leave for 500±4 hrs.															
10	High Temperature Load Test	Normal appearance Resistance change: not to exceed ±20% (*)	JIS C 5102 term 9.10 60±3°C (in air), PTC is applied max. operating voltage for 1.5 hrs. on and 0.5 hrs. off. This cycle is repeated for 1000±10 hrs.															

(\*) Measure resistance after the test by applying voltage of less than 1.5Vdc by a direct current of less than 10mA after product is left at 25±2°C for 2 hours.

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

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

Above conditions are mentioned in Notice.