

		temperature and humidity after test. Retest rated zero power resistance.	
2.9	Impact resistance current capacity	At=25±2 °C, Short circuit current waveform :10/1000μs, The minimum open circuit voltage: 1.0KV, short-circuit current peak value 25A, spacing interval: 3 minutes, repeat 30 times.Recovery 4-5 hours under normal temperature and humidity after test. Retest rated zero power resistance.	$\Delta R/R_n \leq \pm 20\%$
2.10	Failure Mode	Ambient temperature: 25 ± 2 °C, Supply voltage: 250Vrms. Series resistance 0Ω, Duration 15 minutes. Repeat 1 time. Recovery 4-5 hours under normal temperature and humidity after test. Retest rated zero power resistance.	Allow open circuit or high impedance. No allow burn and flashover.
NO.	Item	Testing condition	Requirement
2.1	Rated zero power resistance R25	At=25± 2 °C, ,testing voltage ≤1.5V _{DC} ;	25Ω±20% 20hm sub-file

3. Reliability:

NO	Item	Requirement	Test measurement
3.1	Appearance	No visible damage, clear marking	Visual testing
3.2	Solderability	At least 95% of terminal electrode covered by new solder	Refer to IEC68-2-20(GB2423.28) Ta Dip each lead into 235±5°C solder for 3~5sec to the 5mm above body
3.3	Resistance to solder heat	$ \Delta R/R_n \leq 20\%$ No damage observed	Refer to IEC68-2-20(GB2423.28) Tb Recheck Rated zero power resistance after 4-5 hours recovery under normal temperature and humidity condition.
3.4	Tensile strength of terminal	$ \Delta R/R_n \leq 20\%$ No damage observed	Refer to IEC68-2-21(GB2423.29) Test Ua: Pull force 10N, for 10 sec. Test Ub: Bending 90°, pull force 5N, twice Test Uc: Rotating 180°, twice. Recheck Rated zero power resistance after 4-5 hours recovery under normal temperature and humidity condition.
3.5	Fire resistance		According to the IEC695-2-2 standard carry out the needle flame test

3.6	vibration	No damage observed The change rate of resistance $ \Delta R/R_n \leq 20\%$	The samples fixed on the test plate, From 10 hz to 55 hz, displacement amplitude is 0.75 mm within 1 minute. Along the test sample X and Y directions each vibration 45 minutes. Retest Rated zero power resistance after 4-5 hours recovery under normal temperature and humidity condition.
3.7	Collision	No damage observed The change rate of resistance $ \Delta R/R_n \leq 20\%$	The samples fixed on the test plate, acceleration is 100 m/s^2 , duration of 11ms, frequency: 60-80 times/minute. Along the test sample X Y two direction the collision 1000 times. Retest Rated zero power resistance after 4-5 hours recovery under normal temperature and humidity condition.
3.8	Steady damp-heat	No damage observed The change rate of resistance $ \Delta R/R_n \leq 20\%$	Ambient Temperature: 40°C Humidity: 90%-95% Duration: 48h Retest Rated zero power resistance after 4-5 hours recovery under normal temperature and humidity condition.
3.9	temperature variation	No damage observed The change rate of resistance $ \Delta R/R_n \leq 20\%$	Low Temperature: -10°C ; High Temperature: $+70^\circ\text{C}$ Exposure Duration: 30 minutes Transfer time: 2 minutes Cycle time: 5 times Retest Rated zero power resistance after 4-5 hours recovery under normal temperature and humidity condition.
NO	Item	Requirement	Test measurement

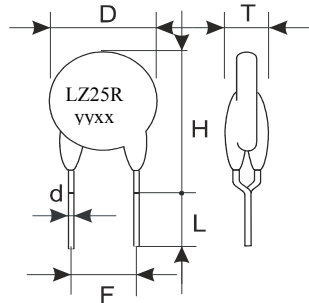
4. Standard Packaging and marking Information:

- Bulk: 640/320 PCS / bag/box
- Carton: 16 (bag)box / per Carton

640pcs, 2ohm step pairing in a bag and in a white box
16 boxes in a carton.

Marking label-

LZ25R



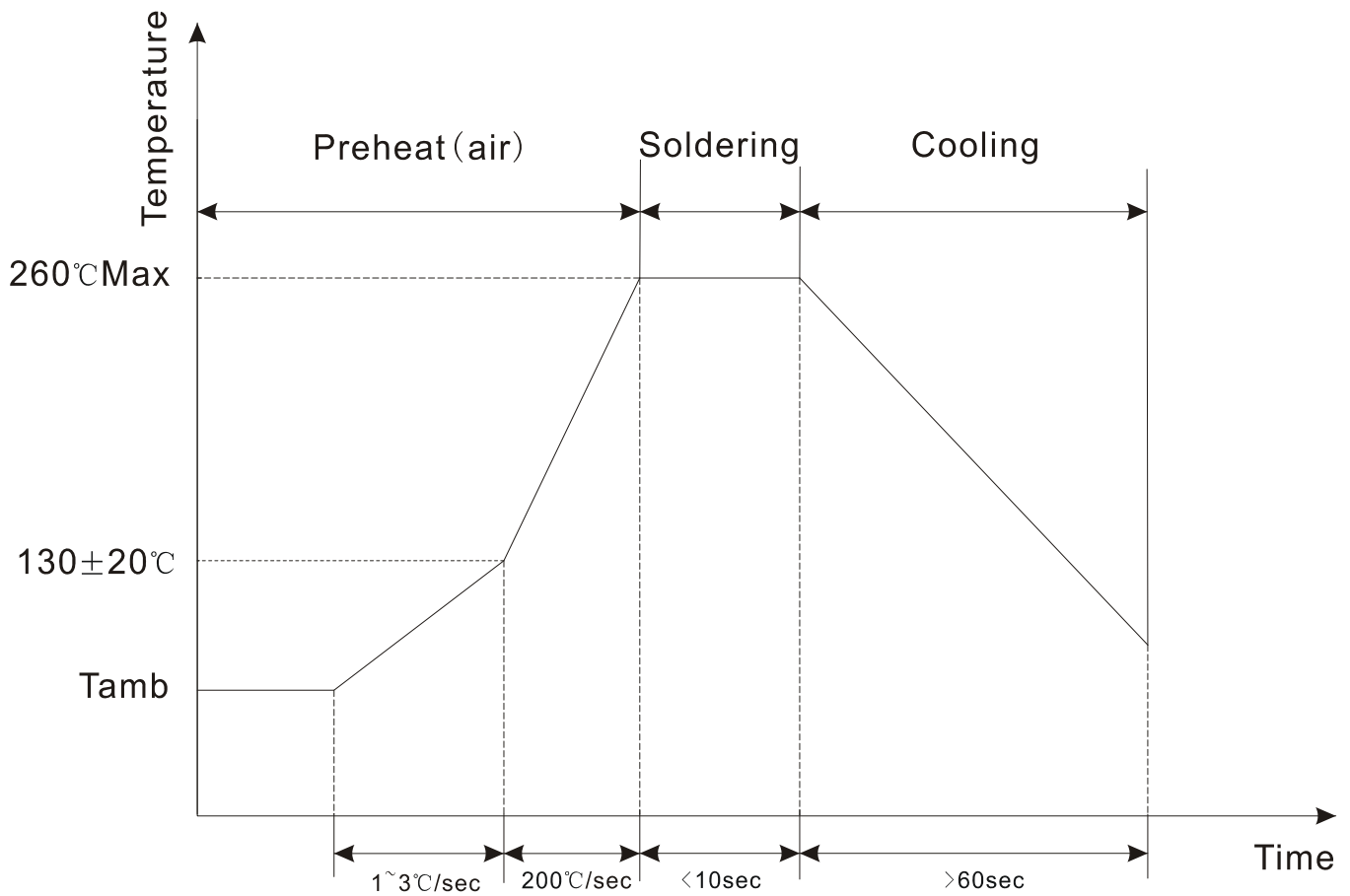
5.Storage Condition of Products:

Storage temperature	-40~85°C
Relative humidity	≤95%HR (+40°C)
Barometric pressure	86 ~106Kpa
Vibration frequency	10 Hz ~50Hz~10 Hz
Collision	100m/s ² : 16ms
Other requirement	No acid, alkali and reducing atmosphere

6. Recommended Reworking Conditions With Soldering Iron:

Welding condition	reference craftwork
Soldering iron temperature	360°C (max)
Soldering time	2sec(max)
Distance to coating material	6mm (min)

7.Wave Flow Soldering Profile



8.Inspection

NO.	Item	Inspection level	AQL	Remark
1	Appearance	II	0.65	
2	Size	II	0.65	
3	Rated Zero Power Resistance	II	0.65	
4	Non-Trip Current	S-3	2.5	
5	Trip Current	II	0.65	
6	Trip Time	S-3	2.5	
7	Failure Mode	S-3	2.5	
8	Resistance to high voltage induction ability	S-3	2.5	
9	Solderability	S-3	2.5	

10	Resistance to power frequency current capacity	S-3	2.5	
11	Resistance to power frequency voltage ability	S-3	2.5	
12	Impact resistance current capacity	S-3	2.5	
13	Tensile strength of terminal	S-3	2.5	
14	Curie temperature	-	-	10PCS/per lot , carry out (Ac=1, Re=2) Judge

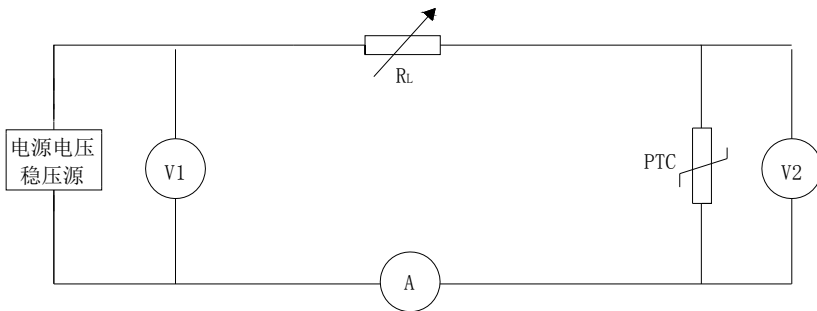
9. Electrical performances tests

9-1 Testing of Non-trip Current

- A、 Put the PTC in $25^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 1H, test the initial resistance R_n and record;
- B、 Refer the 4.24 standard to IEC60738-1 or GB/T 7153, connecting it as fig1 and put into the testing oven, adjust the temperature the same as required and keep the airflow fixed;
- C、 Put the PTC to the constant Voltage, and adjust the R_L , make the starting Current to the Non-trip Current Value and last as the required time, test the Voltage of PTC and record the data;
- D、 Calculating the Resistance(R) of the PTC by the tested Voltage, calculating it with R_n (the starting Current of the PTC) the changing Rate of the Resistance ;
- E、 PTC could not get the high resistance;

9-2 Testing of Trip Current

- A、 Put the PTC in $25^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 1H, test the initial resistance R_n and record;
- B、 Refer to IEC60738-1 or GB/T 7153 of 4.24, connecting it as fig1 and put into the testing oven; adjust the temperature the same as required and keep the airflow fixed, and keep the PTC under this temperature for 30 minutes;
- C、 Put the PTC to the constant Voltage, and adjust the R_L , make the starting Current to the Trip Current;
- D、 Decreasing the Current to a low Value after a certain time, and that means the PTC get its high resistance; (the Voltage Value is increasing and the reading number of the Ammeter is decreasing, record the data as the reading number decreases half of the starting Current.)



Picture 1: Non-trip and trip current test circuit diagram

10. Attention & Declaration

10.1 PTC thermistor is designed under normal environment, so do not use in following environment

- A、Corrosiveness or reducibility gas, (Cl₂、H₂S、NH₃、SO_x、Noxetc.)
- B、volatile gas
- C、The place which directly contact with water and easy to icing
- D、The place which is put brine, oil, liquid medicine.
- E、The place which vibrates badly

10.2. In high impedance state, the temperature itself will surpass 120°C, so confirm whether it has influence to other parts.

10.3 It is ceramic product; fall will make the components fracture and damage because of excessive extrusion

10.4 This specification approval is to assure the quality of each unit, estimate under the situation when the components are fixed to the customer's products.

10.5 PTC thermistor is designed according to the appointed function, so do not violate the rule

10.6 If there is any doubtful point, please notice our company asap.

10.7 If this specification is confirmed by customer, post back according to the cover address, if not, we will treat that the customer has confirmed the specification.

11. Contact Information

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