

**ROHS**

SPECIFICATION FOR APPROVAL

承 认 书

客户名称 (CUSTOMER) :

产品名称 (PRODUCT ITEM) :

客户料号 (CUSTOMER PART NO.):

规格型号 (PART NO.):

文件编号 (FILE NO.):

版 本 (EDITION) :

编制日期 (DATE) :

PTC 热敏电阻器 (PTC THERMISTOR)

MZ31-05M222N900

APRP-103328

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2020-03-16

客户确认 (CUSTOMER CONFIRM)

样品确认后请在周内回签, 谢谢!

供货商确认 (SUPPLIER CONFIRM)

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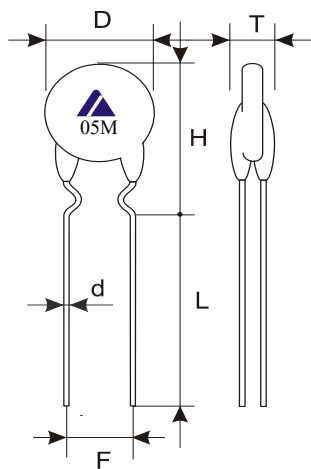
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1. Dimensions



1-1 Unit: mm

| | D | T | H | F | d | L |
|-----|-----|-----|------|-----|------|----|
| Max | 6.5 | 5.0 | 12.0 | 6.0 | 0.65 | |
| Min | | | | 4.0 | 0.55 | 25 |

1-2Coating materail:Phenolic resin

1-3Coating color:yellow

1-4Lead wire:inner bending

1-5Lead wire material: tinned wire

2. Electrical characteristics

| | Item | Test Condition | Specification | Unit |
|-----|-----------------------------|--|---------------|-----------------|
| 2.1 | Rated Zero-power resistance | at=25±2 °C ,testing voltage≤1.5V _{DC} ; | 2200Ω±30% | Ω |
| 2.2 | Curie temperature | 2 times of the corresponding temperature of R ₂₅ | 80±7 | °C |
| 2.3 | Withstand voltage Vs | At =25±2°C , 220Vrms/0.1A, for 10S and change to 900Vrms, for 15S | 900 | V _{AC} |
| 2.4 | Recovery time | The power supply voltage is 220VAC, the initial current is 0.1a, the power is switched on for 30 seconds, and the time required when the resistance value is restored to 2 times the initial resistance value. | <60S | Sec |

| | | | | |
|-----|--|--|---|---|
| 2.5 | Max operating current I _{max} Max operating voltage V _{max} | Power supply voltage 265 Vrms, frequency 50HZ, initial current 0.1A, power on time 60S. After the recovery of 4~5hr under normal temperature and constant humidity, the zero power resistance was re-measured. | 100mA $ \Delta R/R_n \leq \pm 20\%$ | / |
|-----|--|--|---|---|

3. Reliability test

| NO | Item | Test requirement | Test method |
|-----|--|--|---|
| 3.1 | Appearance | No visible damage; Mark clearly | visual |
| 3.2 | Solderability | Soldering material free flow and have good dipping over 95% area. | According to IEC68-2-20(GB2423.28) test Ta to perform the test. By groove soldering, dip the lead end with flux into tin fluid at 235±5℃ 5mm away from PTC body, and maintain it at 3 ~ 5S. |
| 3.3 | Solder resistance heat | No damage was observed before and after the test Resistance changing rate $ \Delta R/R_n \leq 20\%$ | According to IEC68-2-20(GB2423.28) test Tb to perform the test. By groove soldering, dip the lead end with flux into tin fluid at 260±5℃ 3mm away from PTC body, and maintain it at 5±1S. After test. put the part in air for 4-5Hrs. then check the rated zero power resistance. |
| 3.4 | Lead tensile strength | No damage was observed before and after the test Resistance changing rate $ \Delta R/R_n \leq 20\%$ | According to IEC68-2-21(GB2423.29) test U to perform the test. TestUa: The tension is 10N for 10S; TestUb: Bending 900, pulling 5N, twice in a row; TestUc: Rotate 1800 twice in a row. After test. put the part in air for 4-5Hrs. then check the rated zero power resistance. |
| 3.5 | Humidity test (steady-state damp heat) | No damage was observed before and after the test Resistance changing rate $ \Delta R/R_n \leq 20\%$ | According to IEC 68-2-3 (GB/T2423.3) test Cato to perform the test. Temperature: 40℃±2℃, Relative humidity: 90%-95% Unapplied voltage Time: 504 hours (21d) After test. put the part in air for 1-2Hrs. then check the rated zero power resistance and appearance. |

4. Standard Package (For reference only, subject to the actual)

- ☐ Bulk : _____ PCS / bag
☒ Strip : 1000 PCS / box
☐ Tape: _____ PCS / reel

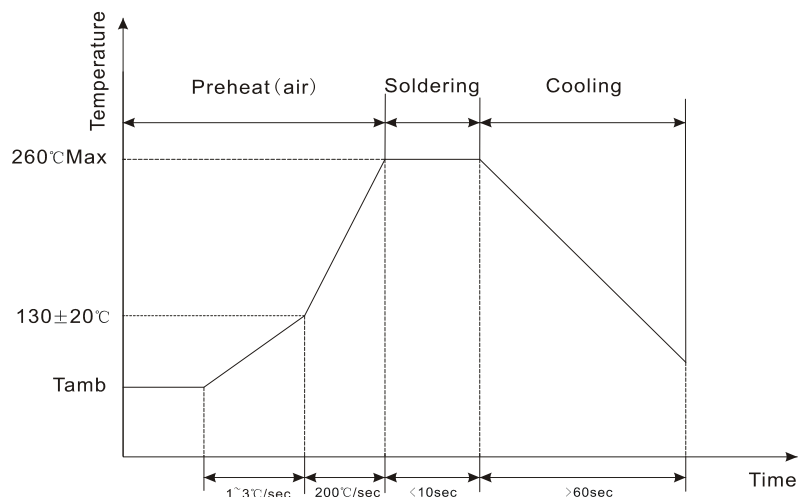
5. Storage Condition of Products

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

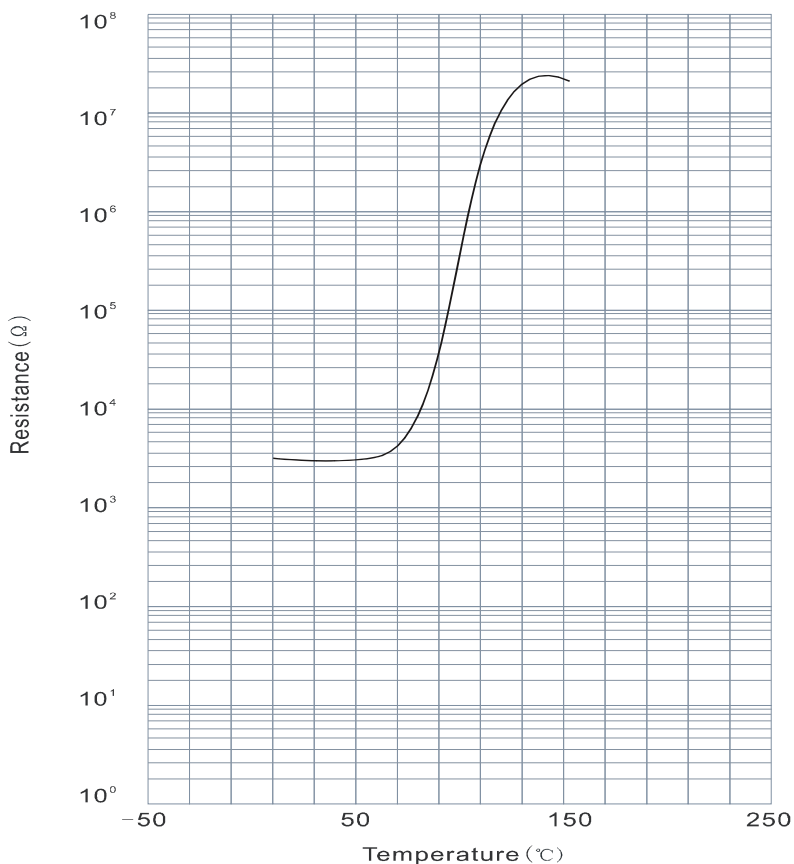
6. Manually iron soldering reference process

| | |
|--|-------------------|
| Soldering condition | Reference process |
| Iron temperature | 360℃(max) |
| Soldering time | 2sec(max) |
| Soldering distance to coating material | 6mm (min) |

7. Wave flow soldering profile



8. Resistance-temperature curve



9. Precautions

9.1 this product is a PTC thermistor designed for general use, so please do not use it in the following environment:

- A, corrosive or reducing gases (Cl_2 、 H_2S 、 NH_3 、 SO_x 、 NO_x etc.);
- B. in volatile gases;
- C. Direct contact with water or wet places prone to dew;
- D. place saline, oil, medicinal liquid and organic solution;
- E. Where the vibration is too large;

9.2 the body temperature of the product may exceed 120°C in the high resistance state, please confirm whether it affects the surrounding parts.

9.3 this product is a ceramic product, which may cause component breakage and defect due to excessive extrusion and impact.

9.4 this specification is to ensure the quality of PTC parts in a single product. Please pay attention to evaluate the state of installation in the customer's product.

9.5 if there is any change in the purpose and method of use that the customer has contacted us in advance, please contact us.

9.6 if the customer has any doubts about this specification, please inform our company as soon as possible to ensure that both parties can communicate with each other quickly and solve the problem through negotiation.

9.7 if the customer confirms this specification, please sign back to us according to the cover address. In case of direct order without sign back, we shall consider this specification to have been confirmed.