MF58 Glass Shell Precision NTC Thermistor

1. General

✧ Description

Glass Shell Precision NTC Thermistors The MF58 is a NTC thermistor which is manufactured using a combination of ceramic and semiconductor techniques. It is equipped with tinned axial leads and then wrapped with purified glass.

✧ Type designation (example)

MF58	103	F	3950	F
①	②	③	④	⑤

① Type : MF58 Glass Shell Precision NTC Thermistor
② Resistance at 25degree 103 means 10KOhm
③ Resistance tolerance F means ±1%
④ Beta value 3950K
⑤ Beta tolerance F means ±1%

✧ Characteristics

- Good stability and repeatability
- High reliability
- Wide range of resistance: 0.1~1000KOhm
- Tight tolerance on resistance and Beta values
- Usable in high-temperature and high-moisture environments
- Small, light, strong package,
- Suitable for automatic insertion on thru-hole PCBs
- Rapid response
- High sensitivity

✧ Application

- Household Appliances
- Office Equipment
- Industrial
- Liquid Level Detection
- Mobile Phone Battery
- Integrated Circuits

Dongguan Uchi Electronics Co.,Ltd.
TEL:86- 769-86183707 FAX:86-769-85625751
http://www.uchidg.com/ E-mail: james@uchidg.com
*** Customization is available according to customer's requirements**

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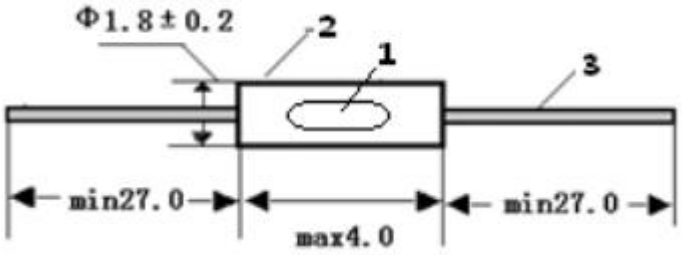
➢ Dimension(Unit:mm)



➢ Specifications

- Zero power resistance range (R25): 0.1~1000KΩ
- Available tolerances of R25:
  F= ±1% G= ±2% H= ±3% J= ±5% K= ±10%
- B value (B25/50°C) range: 3100~4500K
- Available tolerances of B value: ±0.5%, ±1%, ±2%
- Dissipation factor: ≥2mW/°C (In Still Air)
- Thermal time constant: ≤20S (In Still Air)
- Operating temperature range: -55°C ~ +250°C
- Rated Power: ≤50mW

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✧ Mechanical Requirements

Item	Requirements	Test Method
1.Solder-ability	The terminals shall be uniformly tinned, and its area≥95%	Dipping theNTC terminals to a depth of 15mm in a soldering bath of 245±5℃ and to the place of 6mm far from NTC body for 3±0.5s (See IEC68-2-20 /GB2423.28 Ta)
2.Resistance To Soldering Heat	No visible mechanical damage. ΔR/RN ≤20% (ΔR = ｜RN-RN'｜)	Dipping the NTC terminals to a depth of 15mm in a soldering bath of 260±5℃ and to the place for 6mm below from NTC body for 3±0.5s.After recovering4-5h under 25±2℃. The rated zero power resistance value RN' shall be measured. (See IEC68-2-20 /GB2423.28 Tb)
3.Strength of lead terminal	No break out ΔR/RN ≤20% (ΔR = ｜RN-RN'｜)	Fasten the body and apply a force gradually to each lead until 10N and then keep for 10sec, Hold body and apply a force to each lead until 90°slowly at 5N in the direction of lead axis and then keep for 10sec, and do this in the opposite direction repeat for other terminal. After recovering 4~5h under 25±2℃, the rated zero power resistance value RN' shall be measured. (See IEC68-2-21/GB2423.29 Ua / Ub)

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✧ Reliability Test

Item	Requirements	Test Method
1.Temp. Cycling Testing	No visible mechanical damage. ΔRN / RN ≤20% (ΔR = ｜RN-RN'｜)	Ta:-40±3℃/ 30min→25±2℃/ 5min→ Tb:160±3℃/ 30min→25±2℃/ 5min Cycles: 5times After recovering 4~5 h under 25±2℃, the rated zero power resistance value RN' shall be measured.
2.Electrical Cycling Testing		Ambient temp. Range:25℃±2℃. Cycles: 2,000times On / Off: 5 s / 55 s Test Current: 7A After recovering 4~5h under 25±2℃, the rated zero power resistance value RN' shall be measured.
3.LoadLife (Endurance) Testing		Ambient temp. Range:25℃±2℃; 7A/ 1,000±24h After recovering 4~5 h under 25±2℃, the rated zero power resistance value RN' shall be measured.
4. Humidity Testing	No visible mechanical damage. ΔRN / RN ≤20% (ΔR = ｜RN-RN'｜)	Ambient temp. range : 40℃±2℃ R.H.:93±3% , Energized time:1000±24 h After recovering 4~5 h under 25±2℃, the rated zero power resistance value RN' shall be measured.

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✧ Package

➢ Bulk Packaging:

Series	Quantity/poly bag
MF58	500

✧ STORAGE CONDITIONS:

- ➢ Temperature: -10℃～+40℃
- ➢ Humidity: ≤70%RH
- ➢ Term: ≤6 months (First-in/ First-out)
- ➢ Place:

Do not exposing the components to the following conditions, otherwise, it may result in deterioration of characteristics.

1) Corrosive gas or deoxidizing gas.
2) Flammable and explosive gases.
3) Oil, water and chemical liquid.
4) Under the sunlight.

- ➢ Handling after seal open: After unpacking of the minimum package, reseal it promptly or store it inside a sealed container with a drying agent.

✧ WARNING ⚠

Do not apply the components under the following conditions, otherwise, it may result in deterioration of characteristics, destruction of components or in the worst case, to catching fire.

- ➢ Exceeding Imax.
- ➢ Exceeding rated temperature range.
- ➢ Inferior thermal dissipation (Due to badly inferior thermal dissipation, some part of the components body will become overheated and then be damaged.)

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