



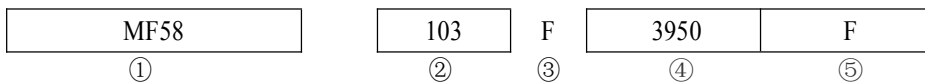
1. General



✧ 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)



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

✧ 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 Ampfort Electronics Co.,Ltd.

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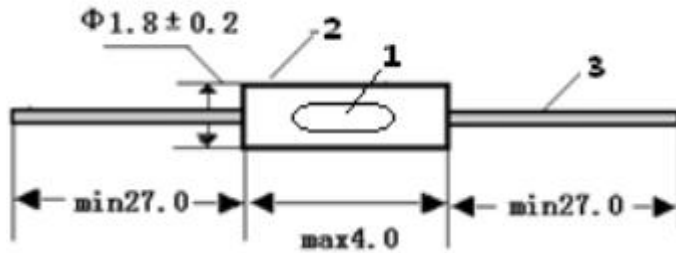
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➤ Dimension(Unit:mm)



➤ Specifications

- Zero power resistance range (R25): 0.1~1000K Ω
- Available tolerances of R25:
F= $\pm 1\%$ G= $\pm 2\%$ H= $\pm 3\%$ J= $\pm 5\%$ K= $\pm 10\%$
- B value (B25/50 $^{\circ}\text{C}$) range: 3100~4500K
- Available tolerances of B value: $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$
- Dissipation factor: $\geq 2\text{mW}/^{\circ}\text{C}$ (In Still Air)
- Thermal time constant: $\leq 20\text{S}$ (In Still Air)
- Operating temperature range: $-55^{\circ}\text{C} \sim +250^{\circ}\text{C}$
- Rated Power: $\leq 50\text{mW}$

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✧ Mechanical Requirements

Item	Requirements	Test Method
1.Solder-ability	The terminals shall be uniformly tinned, and its area \geq 95%	Dipping the NTC terminals to a depth of 15mm in a soldering bath of $245\pm 5^{\circ}\text{C}$ and to the place of 6mm far from NTC body for $3\pm 0.5\text{s}$ (See IEC68-2-20 /GB2423.28 Ta)
2.Resistance To Soldering Heat	No visible mechanical damage. $\Delta R/RN \leq 20\%$ ($\Delta R = RN - RN' $)	Dipping the NTC terminals to a depth of 15mm in a soldering bath of $260\pm 5^{\circ}\text{C}$ and to the place for 6mm below from NTC body for $3\pm 0.5\text{s}$. After recovering 4-5h under $25\pm 2^{\circ}\text{C}$. 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 $\Delta R/RN \leq 20\%$ ($\Delta R = 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 $25\pm 2^{\circ}\text{C}$, 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. $\Delta RN / RN \leq 20\%$ ($\Delta R = RN - RN' $)	Ta: $-40 \pm 3^\circ\text{C} / 30\text{min} \rightarrow 25 \pm 2^\circ\text{C} / 5\text{min} \rightarrow$ Tb: $160 \pm 3^\circ\text{C} / 30\text{min} \rightarrow 25 \pm 2^\circ\text{C} / 5\text{min}$ Cycles: 5times After recovering 4~5 h under $25 \pm 2^\circ\text{C}$, the rated zero power resistance value RN' shall be measured.
2.Electrical Cycling Testing		Ambient temp. Range: $25^\circ\text{C} \pm 2^\circ\text{C}$. Cycles: 2,000times On / Off: 5 s / 55 s Test Current: 7A After recovering 4~5h under $25 \pm 2^\circ\text{C}$, the rated zero power resistance value RN' shall be measured.
3.LoadLife (Endurance) Testing		Ambient temp. Range: $25^\circ\text{C} \pm 2^\circ\text{C}$; 7A/ 1,000 \pm 24h After recovering 4~5 h under $25 \pm 2^\circ\text{C}$, the rated zero power resistance value RN' shall be measured.
4. Humidity Testing	No visible mechanical damage. $\Delta RN / RN \leq 20\%$ ($\Delta R = RN - RN' $)	Ambient temp. range : $40^\circ\text{C} \pm 2^\circ\text{C}$ R.H.: $93 \pm 3\%$, Energized time: 1000 ± 24 h After recovering 4~5 h under $25 \pm 2^\circ\text{C}$, the rated zero power resistance value RN' shall be measured.

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MF58 Glass Shell Precision NTC Thermistor

✧ **Package**

➤ **Bulk Packaging:**

Series	Quantity/poly bag
MF58	500

✧ **STORAGE CONDITIONS:**

- Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
- Humidity: $\leq 70\% \text{RH}$
- 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 I_{max} .
- 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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