

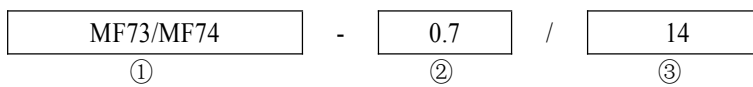
MF73 MF74 Super Power NTC Thermistor

1. General

✧ Description

The MF73 MF74 series Super Power NTC Thermistor provide inrush current suppression for sensitive electronics. Connecting a MF73 or MF74 in series with the power source will limit the current surges typically created at turn on.

✧ Type designation (example)



① Type : MF73 or MF74 Super power NTC Thermistor

② Rated zero-power resistance is 0.7 Ohm

③ Steady state current : 14A



✧ Characteristics

- Reliable Configuration and convenient installment.
- Have the strongest capability of surge current protection.
- Maximum steady operating current.
- Persistent operating when passing through larger steady state current.

✧ Application

- Power conversion, switch power, ups power.
- All kinds of super-power lamps.
- Electrical heater.

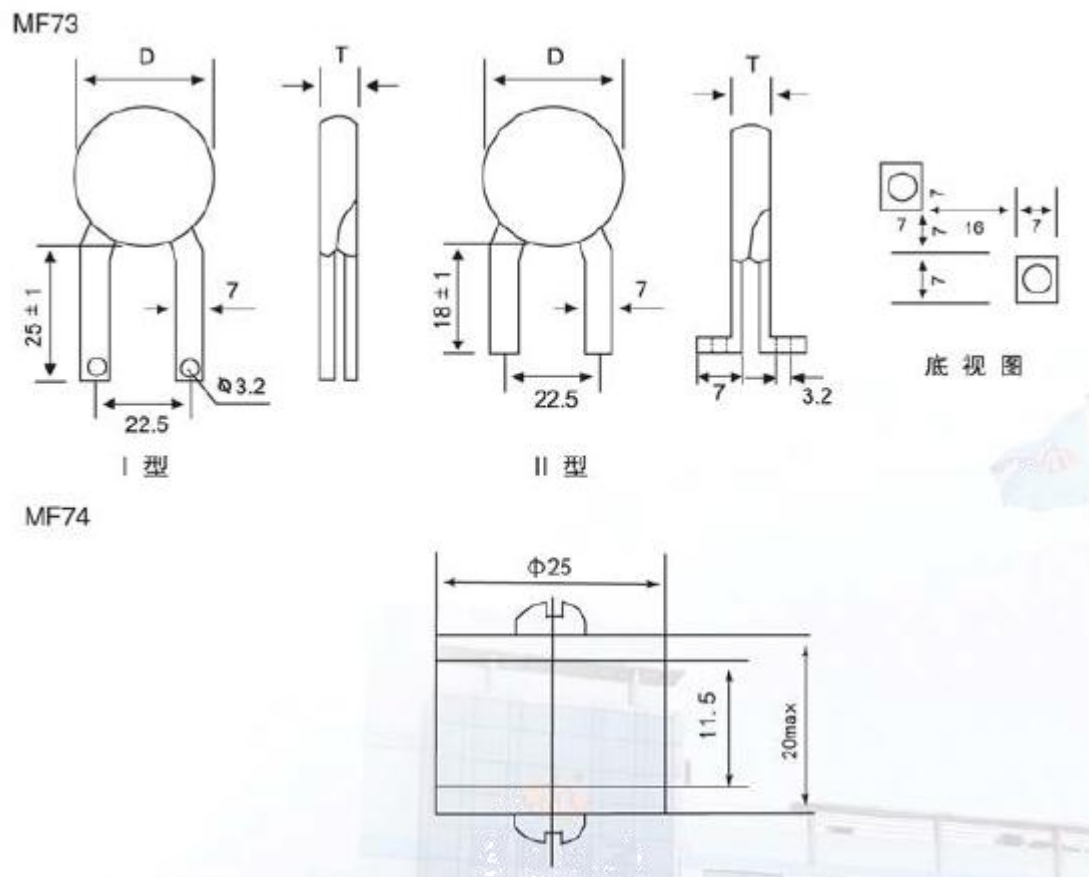
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MF73 MF74 Super Power NTC Thermistor

➤ Dimension(Unit:mm)



| | | | | |
|------------------------|----|----|----|----|
| Chip diameter ± 1 | 30 | 35 | 45 | 60 |
| Outer diameter Dmax | 35 | 40 | 50 | 65 |
| Thickness Tmax | 10 | 12 | 12 | 12 |

Illustration: In general, the long bent lead wire is used, see figure II * Standard

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Specifications

MF73、MF74超大功率型NTC热敏电阻系列 MF73、MF74 Super-power NTC Thermistor series

● 主要技术参数 Main Techno-Parameter

| 型号 Part No. | R ₂₅ ± 20% (Ω) | 最大稳态 电流 Max Steady State Current I _{max} (A) | 最大电流时 近似电阻值 Approx. R of Max. Current R _{max} (Ω) | 工作温度 范围(°C) | 耗散 系数 Dissl. Coef. (mW/°C) | 热时间 常数 Thermal time constant (s) |
|----------------|------------------------------|---|--|----------------|-------------------------------------|--|
| MF73 | | | | | | |
| 本体直径: Φ30mm | | | | | | |
| 0.6/30 | 0.5 | 30 | 0.013 | -40~+200 | ≥ 40 | ≤ 190 |
| 1/30 | 1 | 30 | 0.014 | | | |
| 1.5/25 | 1.5 | 25 | 0.016 | | | |
| 2/23 | 2 | 23 | 0.019 | | | |
| 2.5/20 | 2.5 | 20 | 0.023 | | | |
| 3/19.5 | 3 | 19.5 | 0.026 | | | |
| 4/19 | 4 | 19 | 0.031 | | | |
| 4.7/18 | 4.7 | 18 | 0.035 | | | |
| 5/17 | 5 | 17 | 0.037 | | | |
| 6/17 | 6 | 17 | 0.042 | | | |
| 6.8/16 | 6.8 | 16 | 0.043 | | | |
| 7/15 | 7 | 15 | 0.044 | | | |

| 型号 Part No. | R ₂₅ ± 20% (Ω) | 最大稳态 电流 Max Steady State Current I _{max} (A) | 最大电流时 近似电阻值 Approx. R of Max. Current R _{max} (Ω) | 工作温度 范围(°C) | 耗散 系数 Dissl. Coef. (mW/°C) | 热时间 常数 Thermal time constant (s) |
|----------------|------------------------------|---|--|----------------|-------------------------------------|--|
| MF74 | | | | | | |
| 本体直径: Φ50mm | | | | | | |
| 2.5/37 | 2.5 | 37 | 0.015 | -40~+200 | ≥ 70 | ≤ 480 |
| 3/35 | 3 | 35 | 0.018 | | | |
| 4/34 | 4 | 34 | 0.020 | | | |
| 4.7/32 | 4.7 | 32 | 0.022 | | | |
| 5/30 | 5 | 30 | 0.025 | | | |
| 6.8/28 | 6.8 | 28 | 0.028 | | | |
| 8/26 | 8 | 26 | 0.030 | | | |
| 10/24 | 10 | 24 | 0.032 | | | |
| 12/22 | 12 | 22 | 0.034 | | | |
| 15/20 | 15 | 20 | 0.042 | | | |
| 18/18 | 18 | 18 | 0.061 | | | |
| 20/16 | 20 | 16 | 0.070 | | | |

| | | | | | |
|--------------------------|-----|----|-------|----|-----|
| MF73-20/7 | 20 | 7 | 0.245 | 45 | 190 |
| MF73-30/6 | 30 | 6 | 0.333 | 45 | 190 |
| 芯片直径 Chip Diameter: 35mm | | | | | |
| MF73-0.7/15 | 0.7 | 15 | 0.064 | 50 | 235 |
| MF73-1/12 | 1 | 12 | 0.093 | 50 | 235 |
| MF73-1.5/12 | 1.5 | 12 | 0.101 | 47 | 235 |
| MF73-2/11 | 2 | 11 | 0.115 | 47 | 235 |
| MF73-3/11 | 3 | 11 | 0.120 | 47 | 235 |
| MF73-5/10 | 5 | 10 | 0.145 | 45 | 235 |
| MF73-8/9 | 8 | 9 | 0.173 | 50 | 235 |
| MF73-10/9 | 10 | 9 | 0.179 | 47 | 235 |
| MF73-16/8 | 16 | 8 | 0.217 | 50 | 235 |
| MF73-20/8 | 20 | 8 | 0.226 | 50 | 235 |
| MF73-30/7 | 30 | 7 | 0.296 | 50 | 235 |
| 芯片直径 Chip Diameter: 45mm | | | | | |
| MF73-0.7/17 | 0.7 | 17 | 0.059 | 66 | 285 |
| MF73-1/14 | 1 | 14 | 0.078 | 66 | 285 |
| MF73-1.5/14 | 1.5 | 14 | 0.087 | 62 | 285 |
| MF73-2/13 | 2 | 13 | 0.096 | 62 | 285 |
| MF73-3/13 | 3 | 13 | 0.101 | 62 | 285 |
| MF73-5/12 | 5 | 12 | 0.118 | 60 | 285 |
| MF73-8/11 | 8 | 11 | 0.134 | 66 | 285 |
| MF73-10/11 | 10 | 11 | 0.140 | 62 | 285 |
| MF73-16/10 | 16 | 10 | 0.163 | 60 | 285 |
| MF73-20/10 | 20 | 10 | 0.170 | 60 | 285 |
| MF73-30/9 | 30 | 9 | 0.210 | 60 | 285 |
| 芯片直径 Chip Diameter: 60mm | | | | | |
| MF73-0.5/25 | 0.5 | 25 | 0.032 | 94 | 350 |
| MF73-0.7/20 | 0.7 | 20 | 0.050 | 94 | 350 |
| MF73-1/17 | 1 | 17 | 0.060 | 94 | 350 |
| MF73-1.5/17 | 1.5 | 17 | 0.069 | 88 | 350 |
| MF73-2/16 | 2 | 16 | 0.075 | 88 | 350 |
| MF73-3/16 | 3 | 16 | 0.078 | 88 | 350 |
| MF73-5/15 | 5 | 15 | 0.089 | 85 | 350 |
| MF73-8/14 | 8 | 14 | 0.098 | 94 | 350 |
| MF73-10/14 | 10 | 14 | 0.102 | 88 | 350 |
| MF73-16/13 | 16 | 13 | 0.113 | 85 | 350 |
| MF73-20/13 | 20 | 13 | 0.118 | 85 | 350 |
| MF73-30/12 | 30 | 12 | 0.138 | 85 | 350 |

-55 ~ +200

| | | | | | |
|-------------|-----|----|--------|-----|-----|
| MF74-2/25 | 2 | 25 | 0.0240 | 120 | 340 |
| MF74-2.5/25 | 2.5 | 25 | 0.0252 | 120 | 350 |
| MF74-3/23 | 3 | 23 | 0.0293 | 123 | 350 |
| MF74-4/21 | 4 | 21 | 0.0340 | 123 | 350 |
| MF74-5/21 | 5 | 21 | 0.0364 | 123 | 350 |
| MF74-6/18 | 6 | 18 | 0.0494 | 123 | 355 |
| MF74-8/18 | 8 | 18 | 0.0525 | 125 | 360 |
| MF74-10/18 | 10 | 18 | 0.0555 | 125 | 360 |
| MF74-12/15 | 12 | 15 | 0.0622 | 125 | 345 |
| MF74-16/15 | 16 | 15 | 0.0688 | 125 | 345 |
| MF74-20/15 | 20 | 15 | 0.0745 | 125 | 345 |
| MF74-25/16 | 25 | 15 | 0.0857 | 125 | 345 |
| MF74-30/12 | 30 | 12 | 0.1170 | 125 | 350 |

-55

+200

注: 若非特别指出, R₂₅的允许偏差为 ± 20%
Remark: Unless the particular indication, the allowable tolerance of R₂₅ is ± 20%.

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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 theNTC terminals to a depth of 15mm in a soldering bath of 245 \pm 5 $^{\circ}$ C and to the place of 6mm far from NTC body for 3 \pm 0.5s (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 $^{\circ}$ C and to the place for 6mm below from NTC body for 3 \pm 0.5s.After recovering4-5h under 25 \pm 2 $^{\circ}$ 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 $^{\circ}$ 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 $^{\circ}$ 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±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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❖ 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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