

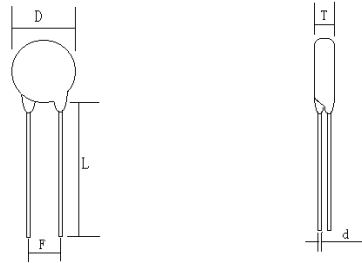
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**名 称(Name): 温补型 NTC 热敏电阻器(NTC THERMISTOR)**

**型 号(Type): MF11 202**

**1 、一般参数 (Common Parameters) :**

(1) 尺寸 (mm) (Size)



D	L	F	T	d
Max5.5	Min25	2.5±1.0	Max3.5	0.45±0.06

(2) 材料 (Materials)

- ①封装材料 (Wrapper) : 环氧树脂 (Silicone)
- ②引线 (Down-lead) : 镀锡电子线 (Tinned Electron Wire)
- ③颜色 (Coating color) : 黑色 (Black)

**2、主要技术参数 (Parameters of Technology) :**

- ①25℃时零功率电阻值 (Ω) (Zero Power Resistance at 25℃) : 202 ± 20%
- ②B 值 (K) (B Value) : 3950 ± 5%
- ③热时间常数 (S) (Thermal Time Constant) : ≤ 15
- ④热耗散系数 (mW/℃) (Thermal Dissipation Constant) : ≥ 6

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⑤工作温度 (°C) (Operating Temperature) : -40 - +125

⑥绝缘电阻 (MΩ) (Insulating Resistance) : ≥100

## 术语和一般特性

### Terms and General Characteristics

术语名称 Terms	说 明 Description	性能要求 Requirement
<b>零功率电阻值</b> Zero Power Resistance	在 25°C 下, 当由于电阻体内部发热引起的电阻值变化相对于总测量误差可以忽略不计时所测得的电阻值。 At 25°C, the measured resistance value can be neglected compared to the general tolerance when the change of the resistance is made through its self-heat of the resistor.	见电特性参数 See Electrical Parameters
<b>B 值</b> B-value	B 值可以用 25°C 和 50°C 时的零功率电阻值计算出来。其计算公式是: $B = \frac{T1 * T2}{T2 - T1} * \ln \left( \frac{R1}{R2} \right)$ The B value can be calculated using the zero power resistance value at 25°C and 50°C. The equation is as above.	见电特性参数 See Electrical Parameters
<b>热耗散系数</b> Thermal Dissipation Constant	在规定的温度下, 热敏电阻中耗散的功率变化与热敏电阻相应温度变化之比。其单位: mw/°C The ratio of the change of the dissipation power to the corresponding change of the temperature at specified temperature. The unit is: mw/°C	见电特性参数 See Electrical Parameters
	在零功率条件下, 当温度发生变化时, 热	

<b>热时间常数</b> ThermalTimeConstant	敏电阻的温度变化为其初始的和最终的温度差的 63.2%所需的时间。 Under zero power condition, thermal time constant is the time required by a thermistor that its body temperature reach 63.2% of the difference between its initial and final temperature.	见电特性参数 See Electrical Parameters
<b>工作温度</b> Operating Temperature	热敏电阻器长期连续工作所允许的温度范围。 Allowable temperature range while the thermistor work continuously for long time	-40~+125℃
<b>稳态湿热</b> Damp Heat	温度 40±2℃，相对湿度 93±3%，存放 48±2 小时后，在正常状态下 1 小时。 The sample should be subjected to 40±2℃, relative humidity 93±3% for 48±2 hours, then stored at room temperature and humidity for 1 hour.	无可见损伤、标志清晰、无击穿或飞弧，绝缘电阻大于 100M Ω。电阻值的最大变化率在±20%以内。 No visible damage, the mark is clear, no breakdown or arcing. Insulating resistance is >100M Ω. The change ratio of the resistance is within ±20%.
<b>耐电压</b> Withstand Voltage	施加电压，时间 1 分钟，电压加在电阻器引线及绝缘层之间 Applied AC voltage of 700v between the lead of the resistor and the insulating coating for 1 minute	无击穿或飞弧 No breakdown or arcing
<b>耐焊接热</b> Resistance to Soldering Heat	将热敏电阻器引线在 250±10℃ 的焊锡液里，液面距电阻体 6mm 时间 3 分钟。在室温下恢复到原来的状态。 Immerse the lead of the resistor into tin liquor of 250±10℃ for 3 sec, the distance from the liquor surface to the resistor is 6mm. Then resume to the original state.	无可见损伤、电阻值的最大变化率在±20%以内 No visible damage. The max change ratio of the resistance is within±20%
<b>可焊性</b>	引线浸在 250±10℃ 的锡液里，时间 3 秒。	焊锡涂布面积在

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Solderability	浸锡温度: $240 \pm 5^{\circ}\text{C}$ 手锡温度: $260 \pm 5^{\circ}\text{C}$ (5s) Immerse the lead into tin liquor of $250 \pm 10^{\circ}\text{C}$ for 3 sec. The temperature of immerse welding: $240 \pm 5^{\circ}\text{C}$ , The temperature of hand welding: $260 \pm 5^{\circ}\text{C}$ (5s)	95%以上 The covered surface area should be above 95%
<b>引出端变曲强度</b> Bending Strength of Terminals	固定电阻体, 在一根引出端悬挂 0.5kg 重力变曲 90 度; 然后再回复, 再把方向弯曲 90 度 Fix the resistor, hanging a force of 0.5kg to one terminal to bend it by 90 degree, then resume to the original state, bend it by 90 degree again.	无可见损伤 NO visible damage
<b>振 动</b> Vibration	频率: 10-50HZ; 振幅: 1.55mm 方向和时间: X、Y 及 Z 轴各 2 个小时 Frequency: 10-50HZ, Wave Amplitude: 1.55mm. Direction and Time: 2 hours respectively for X, Y and Z axis.	无机械损伤 No mechanical damage
<b>温度快速变化</b> Temperature Rapid Change	$-40^{\circ}\text{C}/30 \longrightarrow 25^{\circ}\text{C}/5 \longrightarrow$ $+160^{\circ}\text{C}/30 \longrightarrow 25^{\circ}\text{C}/5$	电阻变化率 $\pm 20\%$ The change ratio of the resistance is $\pm 20\%$
<b>置放温度</b> Storage Temperature	$-40^{\circ}\text{C}$ 至 $125^{\circ}\text{C}$ $-40^{\circ}\text{C}$ to $125^{\circ}\text{C}$	电阻变化率 $\pm 20\%$ The change ratio of the resistance is $\pm 20\%$