







## 1、产品型号说明 Product model specification


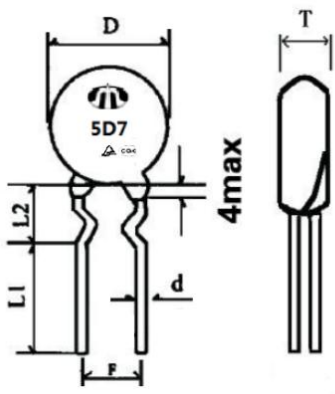
 MF72 5 **D** 7  
 ①            ②            ③            ④

- ①  : 时恒品牌
- ② MF72: 功率型 NTC 热敏电阻
- ③ 5:25℃的零功率电阻值 5 Ω
- ④ 7: 本体直径 D7

## 2、电气性能 Electrical Characteristics

No.	项目 Item	符号 Symbol	测试条件 Test conditions	单位 Unit	性能要求 Requirements
2.1	25℃的零功率电阻值 Zero Power Resistance at 25℃	R <sub>25c</sub>	T <sub>a</sub> =25±0.5℃ (测试功率 ≤0.1mW 空气中测试) Test Power≤0.1mW, in air)	Ω	5 Ω ±20%
2.2	B 值 B-value	B <sub>25/50</sub>	$B = [(T_a \times T_b) / (T_b - T_a)] \times \ln(R_a / R_b)$ T <sub>a</sub> =25±0.01℃ T <sub>b</sub> =50℃±0.01℃	K	2600±10%
2.3	最大稳态电流 Max steady current	I max	/	A	1.9
2.4	最大允许容值 Max allowable capacity value	C <sub>T</sub>	240Vac	μF	150
2.5	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/℃	≥10
2.6	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	≤30
2.7	耐电压 withstand voltage		500V/AC 1min	/	无击穿或飞弧 No breakthrough and flash over
2.8	绝缘电阻 Insulation resistance	/	500V/DC 1min	MΩ	≥500
2.9	工作温度范围 Operating temperature range	/	/	℃	-40 ~ 130
2.10	最大额定功率 Maximum rated power	Pmax	/	W	1
2.11	阻温特性 R&T-table	/	/	/	见附图 1 see attachment1
2.12	伏安曲线 curve of voltage and current	/	/	/	见附图 2 see attachment2

## 3、产品图纸 Product drawing

 <b>产品图纸</b> Product drawing		客户 确认 Customer confirm	客户名称 Customer:			
			确认 Confirm		日期 DATE	
产品型号 MODEL NO.	MF72 5D7 (SH2022XXX)		审核 Approve:		日期 DATE	
<b>尺寸 Dimensions:</b> (Unit: mm)						
						
Dmax	L1	L2 ±2	F±0.5	T max	d±0.05	
Max 8.0	min17	5	5.0	5	0.6	
<b>技术要求 Technical requirements:</b>						
1) 零功率阻值: R25: $5\Omega \pm 20\%$ (Zero Power Resistance: R25: $5\Omega \pm 20\%$ ); 2) B25/50 数值: $2600K \pm 10\%$ (B-value: B25/50: $2600K \pm 10\%$ ); 3) 线材: 镀锡铜包钢线 (Tinned copper clad steel wire); 4) 封装: 黑色酚醛树脂 (Black phenolic resin); 5) 符合 RoHS 环保要求 (Meet environmental protection requirements: RoHS)。						
<b>更新履历 Revised record sheet</b>						
版本 REV. NO	更新时间 REV. DATE	更新内容 Change content		申请人 Applicant	批准人 Approved	
A0	2015. 4. 10	版本制定。 Version formulation		王月婷	李少媛	
B0	2022. 4. 1	更新规格书版本格式, 增加版次管控 Update for version form of datasheet, add to management and control for number of edition		王月婷	李少媛	

## 4、可靠性 Reliability

No.	项目 Item	试验标准	试验条件及方法 Test conditions and methods	性能要求 Requirements
4.1	引出端强度 Terminal strength	IEC60068-2-21	线径 lead diameter(mm) 拉力 (N) <u>Pull strength(N)</u> $0.5 < d \leq 0.8$ 10 $0.8 < d \leq 1.25$ 20 时间: $10 \pm 1$ 秒 time: $10 \pm 1$ sec	无可见性损伤 No obvious damage $R_{25} \Delta R/R \leq \pm 25\%$
4.2	可焊性 Solderability	IEC60068-2-20	温度 $245 \pm 5^\circ\text{C}$ 时间 2-3 秒 temperature : $245 \pm 5^\circ\text{C}$ for 2-3sec	着锡面积 $\geq 95\%$ Coverage area $\geq 95\%$ .
4.3	耐焊接热 Withstand weiling temp	IEC60068-2-20	锡锅温度: $260 \pm 5^\circ\text{C}$ , 浸入深度距电阻体 6mm, 时间 $10 \pm 1$ 秒 Temperature of tin pot: $260 \pm 5^\circ\text{C}$ , insert depth from body of resistance 6mm, time $10 \pm 1$ seconds	$R_{25} \Delta R/R \leq \pm 25\%$
4.4	稳态湿热 Steady humidity and heat	IEC60068-2-78	温度: $40^\circ\text{C} \pm 2^\circ\text{C}$ , 湿度: $93 \pm 2\%$ , 时间: 1000 小时 Temp: $40^\circ\text{C} \pm 2^\circ\text{C}$ , humidity: $93 \pm 2\%$ , Time : 1000hrs	$R_{25} \Delta R/R \leq \pm 25\%$
4.5	温度快速变化 Rapid changes in temperature	IEC60068-2-14	$-40^\circ\text{C} 30\text{min} \rightarrow 25^\circ\text{C} 5\text{min} \rightarrow 130^\circ\text{C} 30\text{min} \rightarrow 25^\circ\text{C} 5\text{min}$ , 5cycles	$R_{25} \Delta R/R \leq \pm 25\%$
4.6	高温储存 High temperature storage	IEC60068-2-2	温度: $130^\circ\text{C} \pm 5^\circ\text{C}$ 时间: 1000 小时 Temp : $130^\circ\text{C} \pm 5^\circ\text{C}$ , Time : 1000hrs	$R_{25} \Delta R/R \leq \pm 25\%$
4.7	最大稳态电流 耐久性 durability for max steady current	IEC60539-1	在室温下热敏电阻器持续施加最大稳态电 $1000 \pm 24\text{h}$ Impose sustained max steady current upon the thermistor at ambient temperature.	$R_{25} \Delta R/R \leq \pm 25\%$
4.8	最大电容量 Max capacity valume	IEC60539-1	施加最大允许电容量, 间歇地闭合 50ms、 断开 5 倍的热时间常数为一个循环, 对热 敏电阻器施加 1000 次循环。Impose 1000 cycles to the thermistor. take Max capacity value, intermittent switch 50ms, cut 5times thermal time constant as one cycle.	$R_{25} \Delta R/R \leq \pm 25\%$

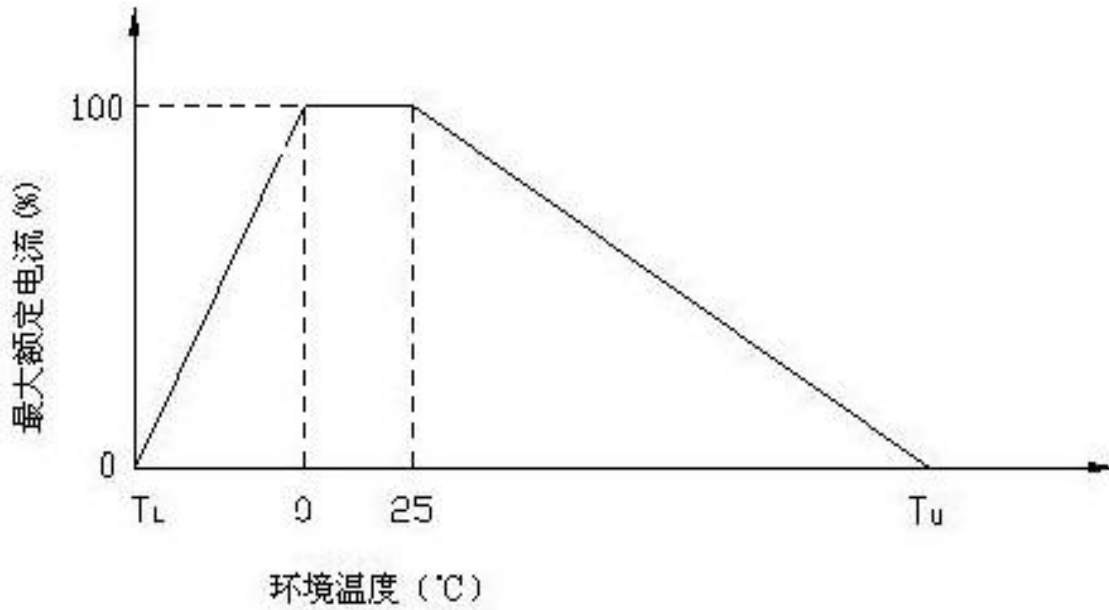
▲注: 1) 稳态湿热及温度快速变化试验结束后, 样品需在常温环境下静置 2 小时后再做性能测试;

▲Note: 1) After the test of steady-state humid heat and rapid temperature change, the sample should be kept for 2 hours at room temperature before performance test ;

2) 高温存储结束后, 需随测试环境自然恢复至常温, 再取出做性能测试。

2) After the test of high-temperature storage is complete, and then take it out for performance test when the test environment naturally regain to normal temperature.

## 5、降电流曲线



备注:  $T_L$ =最低温度 (°C)  
 $T_u$ =最高温度 (°C)

## 6、产品包装 Product packaging

### 6.1 包装方式 Packing Type

散装方式 Bulk Type     编带方式 Reel Type     托盘包装方式 pallet

### 6.2 包装规格 Packing specification

No.	包装规格 Packing specification	包装材料、尺寸 Packing material, size	产品数量 Quantity
1	包装袋 Packing bag	自封口袋(self sealing bag) W×H=11mm×12mm	
2	编带包装盒 reel packing box	包装盒 packing box W×G×H=335mm×240mm×50mm	

## 7、安装&使用注意事项 Installation & Use precautions

7.1 本产品的用途：抑制浪涌电流；

purpose of product:current limitation;

7.2 烙铁焊接时，焊接处距包封头部距离至少 2mm，焊接温度应低于 360℃，焊接时间<3ses；

When welded by soldering iron,weld spot should be 2mm at least from head,weld temperature should be under 360℃,time<3ses

7.3 储存温度：-10℃ ~ 40℃；储存湿度：≤75% RH；

storage temp:-10℃ ~ 40℃；storage humidity:≤75% RH



7.4 避免存放在具有腐蚀性气体及光照的环境下；

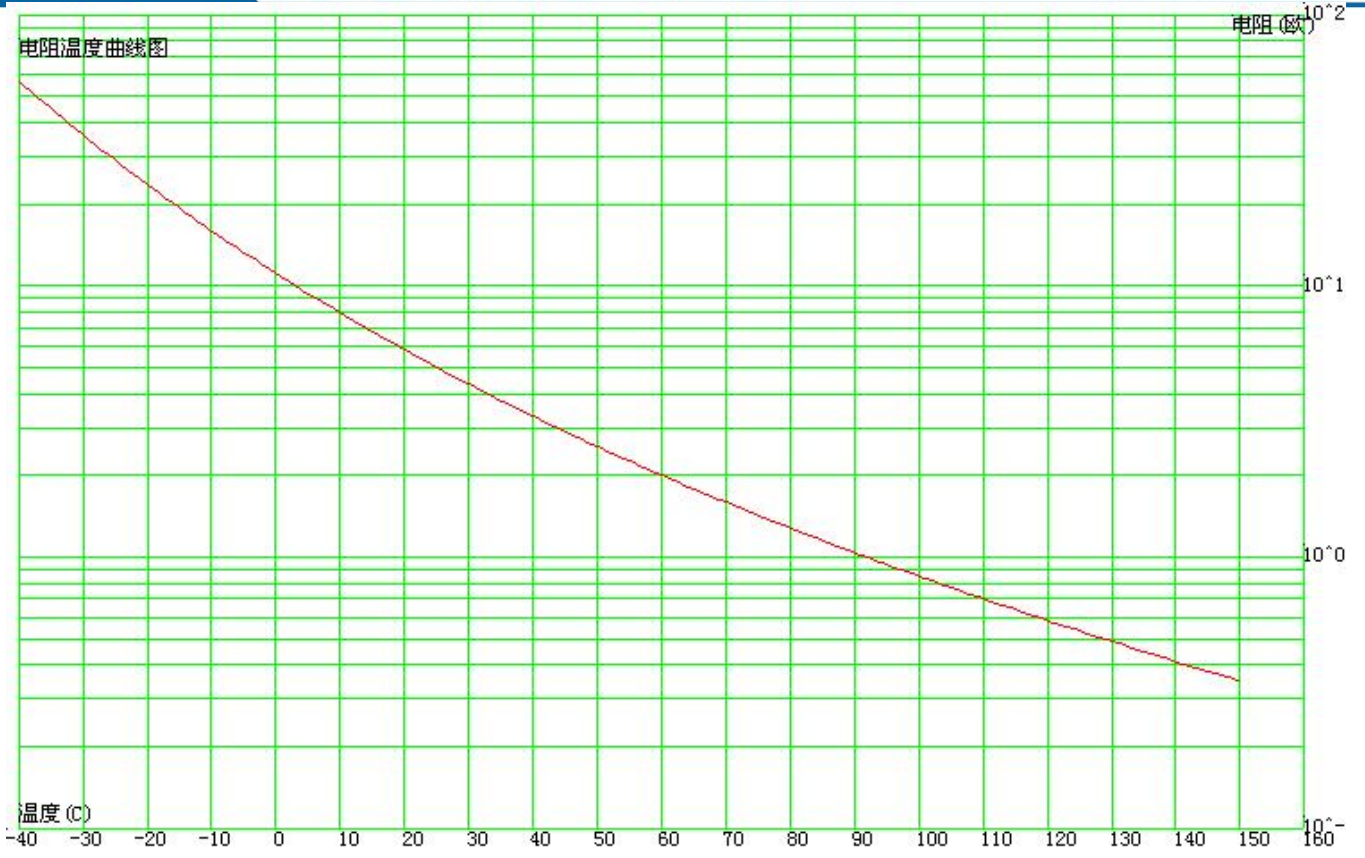
To avoid of leaving with such environment as corrosive gases and illumination

7.5 包装打开后需重新密封保存，贮存期 1 年，超过贮存期，可按本标准规定的项目重新检验，如符合要求仍可使用；

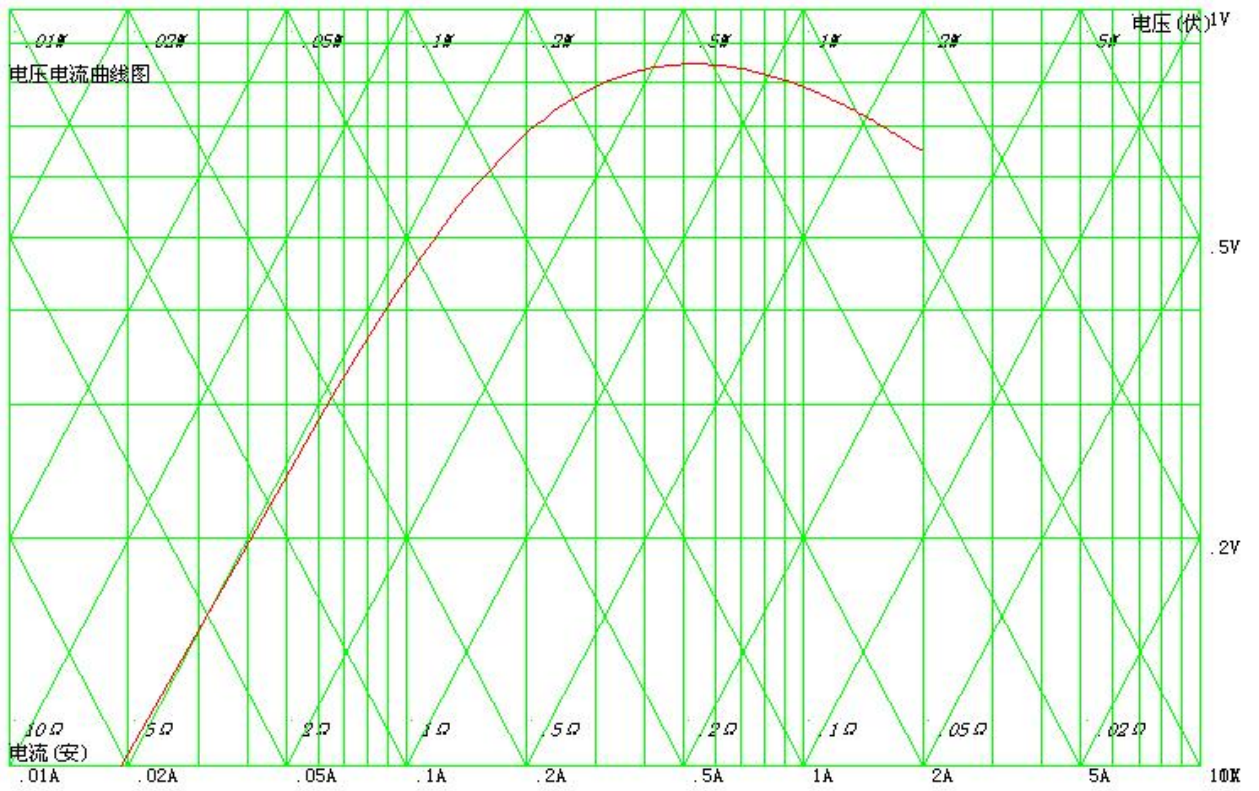
The packing need to be resealed since opened,storage period 1 year.once valid,it should be retest according to regulated of criterion and can be still used if meet the requirement.

## 8、产品认证 Product certification

No.	项目 Projects	产品认证 Product certification
8.1	质量管理体系认证 Quality Management System Certification	ISO9001:2015
		IATF16949: 2016
8.2	环境管理体系认证 Environmental Management System Certification	ISO14001:2015
8.3	环保检测报告 Environmental test report	RoHS 2.0
8.4	CQC 认证 CQC certificate	
8.5	TUV 认证 TUV certificate	R50245892
8.6	江苏省高新技术产品认证 High-tech product certificate in Jiangsu Province	



附：图 1



附：图 2