



南京时恒电子科技有限公司
Nanjing Shiheng Electronics Co.,Ltd.
规格承认书

APPROVAL SHEET

客户名称 CUSTOMER :

产品名称 PART NAME :

产品规格 PART NUMBER :

产品编号 PRODUCTCODE:

版次 REV.NO:

日期 DATE:

MF11 补偿型 NTC 热敏电阻器
MF11 Compensation NTC Thermistor

MF11-101J

B0

2023/1/3

确认

CONFIRM

客户 CLIENT		供货商/制造商 MANUFACTOR	
品保部 Quality Dep.		规格书制作 Design	吴仪
制造部 Production Dep.		业务部审核 Checked by sales	
工程部 Engineering Dep.		技术部审核 Checked by R&D	程鹏
		品质部审核 Checked by QA	李少媛

南京时恒电子科技有限公司

NANJING SHIHENG ELECTRONICS CO., LTD.

地址: 南京市江宁区湖熟镇金阳路 18 号邮编 Postcode: 211121

Address: No.18 Jinyang Road Hushu Town Jiangning District Nanjing China

TEL: 025-52121868

Http: //www.shiheng.com.cn

E-MAIL:sales@shiheng.com.cn



变 更 记 录 表

REVISED RECORD SHEET

[illegible]

1、产品型号说明 Product model specification


MF11 **101** **J**
 ① ② ③ ④

①  : 时恒品牌

② MF11: 补偿型 NTC 热敏电阻

③ 101: 25℃的零功率电阻值 100 Ω

④ J: 阻值精度代码 J-±5% K-±10% M-±20%

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℃	$R_{25^{\circ}\text{C}}$	$T_a=25\pm0.5^{\circ}\text{C}$ (测试功率 $\leq 0.1\text{mW}$ 空气中测试) Test Power $\leq 0.1\text{mW}$, in air)	K Ω	$100\Omega \pm 5\%$
2.2	B 值 B-value	$B_{25/50}$	$B=[(T_a \times T_b)/(T_b-T_a)] \times \ln(R_a/R_b)$ $T_a=25\pm0.01^{\circ}\text{C}$ $T_b=50^{\circ}\text{C} \pm 0.01^{\circ}\text{C}$	K	$3000 \pm 10\%$
2.3	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/℃	约 4.5
2.4	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	约 20
2.5	绝缘电阻 Insulation resistance	/	1000V/DC 1min	M Ω	≥ 500
2.9	工作温度范围 Operating temperature range	/	/	℃	-30 ~ 125
2.10	最大额定功率 Maximum rated power	P_{max}	/	mW	450



3、产品图纸 Product drawing

产品图纸 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.	MF11 101J		审核 Approve:		日期 DATE	
尺寸 Dimensions:						
(Unit: mm)						
D Max	L1 ± 1	L2 MAX	F ± 1	T Max	d ± 0.05	
6.5	25	4	2.5	4	0.45	
技术要求 Technical requirements:						
1) 零功率阻值: R25: 100 Ω ± 5% (Zero Power Resistance: R25: 100Ω ± 5%);						
2) B25/50 数值: 3000K ± 10% (B-value: B25/50: 3000K ± 10%);						
3) 线材: 镀锡铜包钢线 (tinned copper-weld steel wire);						
4) 封装: 绿色环氧树脂 (Green Epoxy resin);						
5) 符合 RoHS 环保要求 (Meet environmental protection requirements: RoHS)。						
更新履历 Revised record sheet						
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 拉力 (N) lead diameter(mm) Pull strength(N) 0.35<d≤0.5 5 0.5<d≤0.8 10 时间: 10±1 秒 time: 10±1 sec	无可见性损伤 No obvious damage R ₂₅ ΔR/R≤±3%
4.2	可焊性 Solderability	IEC60068-2-20	温度 245±5℃ 时间 2-3 秒 temperature : 245±5℃ for 2-3sec	着锡面积≥95% Coverage area ≥ 95%.
4.3	耐焊接热 Withstand weiling temp	IEC60068-2-20	锡锅温度: 260±5℃, 浸入深度距电阻体 6mm, 时间 10±1 秒 Temperature of tin pot: 260±5℃, insert deepth from body of resistance 6mm, time 10±1 seconds	R ₂₅ ΔR/R≤±3%
4.4	稳态湿热 Steady humidity and heat	IEC60068-2-78	温度: 40℃±2℃, 湿度: 93±2%, 时间: 1000 小时 Temp: 40℃±2℃, humidity: 93±2%, Time : 1000hrs	R ₂₅ ΔR/R≤±3%
4.5	温度快速变化 Rapid changes in temperature	IEC60068-2-14	-30℃ 30min→25℃ 5min→125℃ 30min→25℃ 5min, 5cycles	R ₂₅ ΔR/R≤±3%
4.6	高温储存 High temperature storage	IEC60068-2-2	温度: 125℃±5℃ 时间: 1000 小时 Temp : 125℃±5℃, Time : 1000hrs	R ₂₅ ΔR/R≤±5%
4.7	低温储存 Low temperature storage	IEC60539-1	温度: -30℃±5℃ 时间: 1000 小时 Temp : -30℃±5℃, Time : 1000hrs	R ₂₅ ΔR/R≤±5%

▲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/低温存储结束后, 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/low-temperature storage is complete, and then take it out for performance test when the test environment naturally regain to normal temperature.



5、产品包装 Product packaging

5.1 包装方式 Packing Type

☒ 散装方式 Bulk Type ☐ 卖编带方式 Reel Type

5.2 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)	
2	卖编带包装盒 reel packing box	包装盒 packing box	

6、安装&使用注意事项 Installation & Use precautions

6.1 本产品的用途：用于温度补偿；

Purpose of product:Be used for temperature compensation;

6.2 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

6.3 储存温度：-10℃ ~ 40℃；储存湿度：≤75% RH；

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

6.4 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

6.5 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.

7、产品认证 Product certification

No.	项目 Projects	产品认证 Product certification
7.1	质量管理体系认证 Quality Management System Certification	ISO9001:2015
		IATF16949: 2016
7.2	环境管理体系认证 Environmental Management System Certification	ISO14001:2015
7.3	环保检测报告 Environmental test report	RoHS 2.0
7.4	CQC 认证 CQC certificate	
7.5	TUV 认证 TUV certificate	R50245892
7.6	UL 认证 UL certificate	E240991
7.7	江苏省高新技术产品认证 High-tech product certificate in Jiangsu Province	



时恒电子(电阻温度表)

R25=100Ω

B25/50=3000K

T	R	T	R	T	R	T	R	T	R	T	R
-30	953	-4	295.048	22	110.723	48	48.787	74	24.564	100	13
-29	911.662	-3	283.049	23	107.003	49	47.404	75	23.98	101	13.378
-28	871.479	-2	271.634	24	103.43	50	46.07	76	23.414	102	13.095
-27	832.584	-1	260.769	25	100	51	44.781	77	22.864	103	12.819
-26	795.071	0	251	26	96.704	52	43.538	78	22.331	104	12.548
-25	759	1	240.57	27	93.537	53	42.337	79	21.813	105	12.284
-24	724.404	2	231.18	28	90.493	54	41.178	80	21.31	106	12.026
-23	691.295	3	222.228	29	87.567	55	40.058	81	20.821	107	11.773
-22	659.667	4	213.691	30	84.754	56	38.976	82	20.346	108	11.525
-21	629.499	5	205.546	31	82.049	57	37.931	83	19.885	109	11.283
-20	600.76	6	197.771	32	79.447	58	36.92	84	19.436	110	11.046
-19	573.409	7	190.347	33	76.943	59	35.944	85	19	111	10.813
-18	547.401	8	183.255	34	74.534	60	35	86	18.575	112	10.586
-17	522.687	9	176.478	35	72.215	61	34.086	87	18.162	113	10.363
-16	499.213	10	170	36	69.983	62	33.203	88	17.76	114	10.144
-15	476.925	11	163.804	37	67.834	63	32.349	89	17.369	115	9.93
-14	455.768	12	157.876	38	65.765	64	31.522	90	16.988	116	9.72
-13	435.688	13	152.203	39	63.772	65	30.722	91	16.617	117	9.514
-12	416.631	14	146.772	40	61.851	66	29.948	92	16.255	118	9.312
-11	398.543	15	141.571	41	60.001	67	29.198	93	15.903	119	9.114
-10	381.375	16	136.588	42	58.218	68	28.472	94	15.56	120	8.92
-9	365.076	17	131.814	43	56.5	69	27.768	95	15.225	121	8.729
-8	349.6	18	127.236	44	54.843	70	27.087	96	14.898	122	8.541
-7	334.901	19	122.848	45	53.246	71	26.427	97	14.579	123	8.358
-6	320.936	20	118.638	46	51.706	72	25.786	98	14.268	124	8.177
-5	307.665	21	114.599	47	50.22	73	25.166	99	13.964	125	8

