HANLUCK ELECTRONICS

翰 耐 电 子

SPECIFICATION FOR APPROVAL

承 认 书

CUSTOMER：

客户名称 **MICRO MODERN**

PRODUCT ITEM：

产品名称 **温度传感器**

ITEM NUMBER:

客户物料编码 **KG-G144-3**

PART NUMBER:

规格型号 **HL-104F3950FA750G004**

DATE：

编制日期 **2021/2/23**

APPROVAL SHEET

SUPPLIER 供应商确认		**CUSTOMER CONFRIM** 客户确认	
Prepared by 拟制	Approval by 批准	Checked by 审核	Approval by 批准
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Page 页码： 1 / 13	REV. NO. 版本: 1.0	Part NO. 规格型号: KG-G144-3

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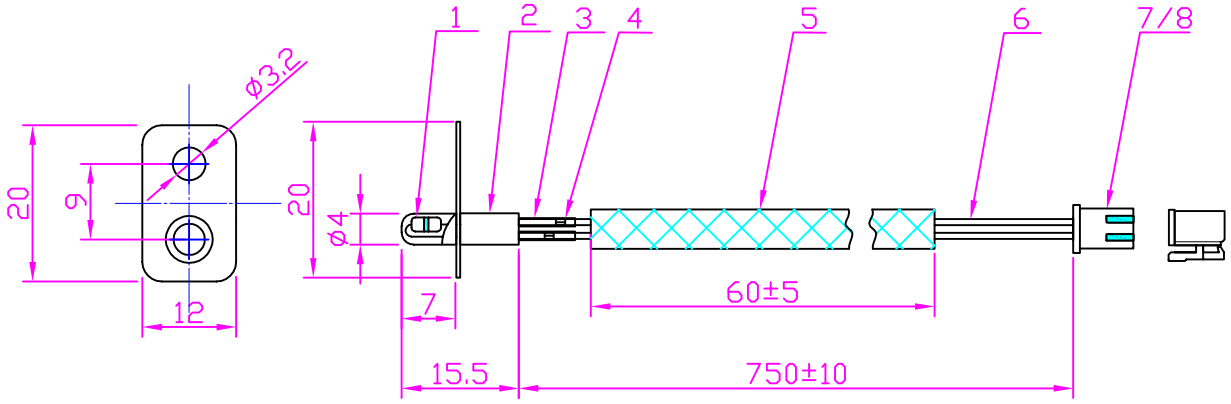
REVISED RECORD LIST
修订记录清单

Revised Version 版 本	Revised Content 修订内容	Revised Date 日 期	Approval 审核人

Hanluck Electronics

材料及规格 Material & Specification					版本 Rev.	变更单号 ECN No.	变更内容 Revised Content	批准人 Approved	日期 Date
序号 No.	名称 Part name	规格描述 Specification description	数量 Qty	备注 Note					
1	热敏电阻 Thermistor	R25℃=100KΩ±1% B25/50=3950K±1%	1						
2	外壳 Casing	ф4×15.5-T7(ф3.2 hole) Stainless steel	1		A/0				
3	绝缘套管 Insulation	Teflon sleeve	1						
4	铜带 Copper Strips	2mm*0.3 Copper	2						
5	护线套管 Sleeve	φ3.5 White fiberglass sleeve , L=60mm	1						
6	导线 Wire	24AWG UL1332 200℃ Black PTFE wire, L1=740mm.L2=747mm	Each 1						
7	连接器 Connector	XHB-2Y white	1						
8	端子 Terminal	XH	2						



Technical Requirements

1.表面光滑无毛刺；
Smooth surface without burr ;
2.导线与端子连接可靠,经20N10秒拉力试验不松脱；
Wire and terminal must resist a tensile force at least 20N in 10S.
3.符合欧盟ROHS2.0环保指令。
Comply with Rohs2.0 directive.

规格型号 Part Number	KG-G144-3	温度传感器 Temperature Sensor
比例 Sacle:		
单位 Unit :	mm	

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Page 页码： 1 / 13	Part NO. 规格型号: KG-G144-3	REV. NO. 版本 ： 1.0

1.电气性能 (Electrical Characteristic)

No. 序号	Item 项目	Symbol 标号	Test Conditions/Methods 测试条件/测试方法	Technical Requirement 技术要求	Unit 单位
1-1	25℃ 电阻值 (Resistance At 25℃)	R25	Ta=25℃±0.05℃ 测试功率≤0.1mW	100KΩ ±1%	KΩ
1-2	B值 (B Constant)	B25/50	B=[(Ta×Tb)/(Tb-Ta)]×ln(Ra/Rb) Ta=25℃±0.05℃ Tb=50℃±0.05℃	3950 ±1%	K
1-3	耗散系数 (Thermal Dissipation Constant)	δ	Ta=25℃（In still air)	≥3	mW/℃
1-4	时间常数-水中 (Thermal Time Constant-in water)	τ	25℃→100℃ T1=25+(100-25)*63.2%=72.4℃	≤15	Sec
1-5	绝缘测试 (Insulation test)	/	DC 500V 5Sec	100	MΩ
1-6	耐压测试 (Hi-Pot Test)	/	1500V AC 10Sec	1.0	mA
1-7	工作温度范围 Operating Temperature Range	/	/	-20～+200	℃
1-8	25℃最大功率 (Maximum Power Rating-At25℃)	Pmax	/	50	mW

2.机械性能 (Mechanical Characteristics)

No. 序号	Item 项目	Technical Specifications 技术要求	Test Conditions/Methods 测试条件/测试方法	Testing Equipment 测试设备
2-1	拉力测试 (Pulling Test)	产品不被破坏和损坏 (No breakout and obvious damage)	加载9.8N（1kg）1分钟 (Fasten body with a load applied to each lead 1.0kg for 1min)	Tensile Machine 拉力计
		最小1.5KG (min.1.5KG)	尾部端子与线材间垂直测试，直至端子与线材脱落，记录其最大拉力 (Rear of the board terminals and wire vertical test, terminals with wire turn off, records the max. pull)	
2-2	自由落体测试 (Free Falling Test)	无可见性损伤 (No obvious damage)	1米的高度，让产品做自由落体运动，下落到10mm厚的橡木板上，5次 (After 5 time natural fall to a maple board from 1M high)	Tensile Machine 拉力计

3.可靠性测试 (Reliability Test)

No. 序号	Item 项目	Technical Specifications 技术要求	Test Conditions/Methods 测试条件/测试方法	Testing Equipment 测试设备
3-1	高温储存 High-temperature storage	△R/R25≤±3% △B/B≤±3%	200±5℃，1000±24h （参照IEC60068-2-2/GB2423.2试验）	Oven
3-2	低温储存 Low-temperature storage	△R/R25≤±3% △B/B≤±3%	’-20±5℃，500±24h （参照IEC60068-2-1/GB2423.1试验）	Refrigerator
3-3	恒温恒湿测试 (Humidity test)	△R/R25≤±3% △B/B≤±3%	40±2℃,90%-95% RH环境下放置1000±24h （参照IEC60068-2-3/GB2423.3试验）	Humidity Machine
3-4	冷热循环测试 Thermal shock test	△R/R25≤±3% △B/B≤±3%	–40℃×30min→25℃×5min →180℃×30min→25℃×5min，反复10次 （参照IEC60068-2-14/GB2423.22试验）	Thermal Shock Test Machine

5.产品储存条件 (Storage Condition of Products)

5-1 储存条件 (Storage Conditions)：

(1) 储存温度 (Storage Temperature)： -10℃ ~ +40℃

(2) 相对湿度 (Relative Humidity)： ≤75%RH

(3) 远离腐蚀和阳光照射 (Keep away from corrosive atmosphere and sunlight)

5-2 储存时间 (Period of Storage)：l year

5-3 产品使用条件：Application Condition

(1)产品使用的最大工作温度，最大功率等，均依照规格书要求作业，不可超出规格书之范围；

The max working temperature, max power has to he within spec.

(2) 产品移动、安装必须轻拿轻放，不可用力拉动；

When move the parts wth slight power and without pull

(3) 感温端子发生变形、氧化等现象时，不要使用，以免影响感温精度；

Don't use the parts when these sensor terminal deformed, oxidized, this wll affect the temperature accuraccy.

(4) 产品外观发现变形、破损时，不可使用，以免影响电性能

Don't use the parts when deformed, broken, this will affect the electrical performance.

6.产品测试条件(Testing Condition of products)

6-1 阻值测试 (Resistivity Testing)：

(1) 测试设备(TestingEquipment)

恒温槽-±0.05℃(ThermostaticBath-±0.05℃)、数字万用表(DigitalMultimeter)

(2) 测试方法 (Testing Method)

恒温槽设定为需要测试的温度，待测试温度确认完毕后，将产品感温头处完全浸入恒温槽中感温约60分钟，产品尾端连接数字万用表并读数，数字稳定后记录其数字，即为产品的阻值。

Fix the temperature of the bath, after the temperature confirmation, immerse the sensor head into the bath and for 60min, then read out the degrees from the digital multimeter and record the data when the digit stabilize.

6-2 B值测试 (Beta Testing)：

(1) 测试设备 (Testing Equipment)

恒温槽±0.05℃ (Thermostatic Bath-±0.05℃)、数字万用表 (Digital Multimeter) 函数计算器(Function Calculator)

(2) 测试方法(Testing Method)

根据B值的关系，分别测试所需要计算B值的两个温度点的阻值；阻值的测试方法如5-1所述；计算B值:

Method of calculating : B=2.3026T1*T2/(T2-T1)*Log10R1/R2&B=Ln(R1/R2)/(1/T1-1/T2)

R1=温度T1时之电阻值; R2=温度T2时之电阻值;

R1=R at Temperature T1 , R2=R at Temperature T2

T1=273.15+t1℃ T2=273.15+t2℃ t1&t2=恒温槽显示的温度值

t1&t2= The showed temperature data on the bath screen

例如：计算R=10KΩ B25/50=3950K 值

T1=273.15+25=298.15 T2=273.15+50=323.15 R1=10KΩ R2=3.589KΩ

B25/50=2.3026*298.15*323.15/(323.15-298.15)*Log1010/3.589=3949.12K

6.产品测试条件 (Testing Condition of products)

6-3 热时间常数(ThermalTimeConstant)

(1) 测试设备(TestingEquipment)：

恒温槽-±0.05℃(ThermostaticBath-±0.05℃)、数字万用表(DigitalMultimeter)、 秒表(Stopwatch)

(2) 测试方法(TestingMethod)

根据热时间常数的定义，计算出最初温度与最终温度差63.2%的温度点并测试这个温度点的阻值；将产品放入每一个恒温槽中，当阻值达到稳定时，快速将其移到第二个恒温槽并开始计时，当阻值达到以上测试点的阻值时停止计时，记录的时间即为产品的反应时间。

As per the definition of the thermal time constant, get the temperature point difference 63.2% between the initial temperature and final temperature immerse the parts into every bath, move the part from the bath to another one asap when the resistance stabilizes, stop recording when the resistance reaches the above resistance, the recording time if called response time.

例如：测试25℃-85℃的反应时间 e.g Response time of 25℃-85℃

a.取样，分别在25℃，25+(85-25)*63.2%=62.9℃的恒温槽中测出每只样品的电阻值，并记录;

Take samples,T est the resistance at 25+(85-25)*63.2%=62.9℃

b.将两个恒温槽调到25±0.1℃、85±0.1℃，产品先放置在25±0.1℃的槽中，且接入数字电表上，当产品阻值居于稳定时，再将产品从25℃的槽中快速移至85℃的槽中，当产品离开25℃槽中时开始启动移表计时，产品温度升高温差的63.2%(即产品阻值降至62.9℃时所测之零功率电阻值)时停止计时，计时器显示的时间即为热反应时间。

Fix the constant bath to be 25+0.1℃，85+0.1℃, put the samples into the 25+0.1℃ bath, and connect with a digital multimeter, move the present sample from 25℃ bath to 85℃ bath asap when the resistance be stable. Start to record the time when the part leaves 25℃ bath. Stop recording the time when the the shifting up of temperature difference 63.2% (the zero resistance when the resistance deduces to the 62.9℃) , the time is called thermal time constant.

6-4 绝缘测试 (Insulation Testing)：

(1) 测试设备 (Testing Equipment)：

耐压测试机 (Hi-Pot Test Machine)

(2) 测试方法(TestingMethod)

耐压测试机电极的一端与测试介质(钢珠或锡珠)连接导通，设定测试的条件参数，产品前端放入测试介质中,尾端与耐压测试机的电极另一端连接导通，按下耐压测试机的开关开始测试；在设定的条件的时间内耐压测试机未报警，产品绝缘测试通过；反之。则不通过。

Connect through the voltage withstanding testor and the testing medium (steel ball or tin ball), fix testing parameter, put the front end to the medium , the tail end is connected to another end of the testor, press down the button of voltaget estor, if the testor does not give an alarm, the parts pass the voltage withstanding test. Conversely, it does not pass.

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Resistance - Temperature Table

R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
-55	20623.500	21986.100	23436.400	6.596	-6.197	0.715	-0.672
-54	17809.100	18957.600	20178.200	6.438	-6.058	0.712	-0.670
-53	15466.500	16440.600	17474.200	6.287	-5.924	0.709	-0.668
-52	13504.600	14335.400	15215.800	6.141	-5.795	0.706	-0.666
-51	11851.500	12564.000	13318.100	6.001	-5.671	0.703	-0.664
-50	10450.700	11064.900	11714.100	5.867	-5.551	0.699	-0.662
-49	9257.290	9789.400	10351.000	5.737	-5.435	0.696	-0.659
-48	8235.230	8698.310	9186.510	5.612	-5.323	0.692	-0.657
-47	7355.590	7760.350	8186.560	5.492	-5.215	0.689	-0.654
-46	6594.960	6950.200	7323.840	5.375	-5.111	0.685	-0.651
-45	5934.270	6247.250	6576.080	5.263	-5.009	0.681	-0.649
-44	5357.900	5634.670	5925.140	5.155	-4.911	0.678	-0.646
-43	4853.030	5098.620	5356.100	5.049	-4.816	0.674	-0.643
-42	4409.040	4627.670	4856.660	4.948	-4.724	0.670	-0.639
-41	4017.110	4212.340	4416.620	4.849	-4.634	0.666	-0.636
-40	3669.900	3844.740	4027.520	4.753	-4.547	0.662	-0.633
-39	3361.230	3518.250	3682.230	4.660	-4.462	0.657	-0.630
-38	3085.930	3227.300	3374.810	4.570	-4.380	0.653	-0.626
-37	2839.610	2967.200	3100.210	4.482	-4.300	0.649	-0.622
-36	2618.550	2733.970	2854.190	4.397	-4.221	0.644	-0.619
-35	2419.590	2524.220	2633.120	4.314	-4.145	0.640	-0.615
-34	2240.020	2335.070	2433.910	4.232	-4.070	0.635	-0.611
-33	2077.520	2164.020	2253.910	4.153	-3.997	0.631	-0.607
-32	1930.090	2008.970	2090.850	4.076	-3.926	0.626	-0.603
-31	1796.020	1868.050	1942.780	4.000	-3.856	0.621	-0.599
-30	1673.800	1739.690	1808.000	3.926	-3.787	0.616	-0.594
-29	1562.140	1622.510	1685.040	3.854	-3.720	0.611	-0.590
-28	1459.910	1515.290	1572.610	3.783	-3.654	0.606	-0.585
-27	1366.120	1417.000	1469.610	3.713	-3.590	0.601	-0.581
-26	1279.910	1326.700	1375.060	3.645	-3.526	0.596	-0.576
-25	1200.520	1243.600	1288.100	3.578	-3.464	0.590	-0.571
-24	1127.280	1166.990	1207.980	3.512	-3.402	0.585	-0.567
-23	1059.590	1096.230	1134.020	3.447	-3.342	0.579	-0.562
-22	996.936	1030.770	1065.650	3.383	-3.282	0.574	-0.557
-21	938.848	970.126	1002.340	3.321	-3.224	0.568	-0.552
-20	884.914	913.850	943.637	3.259	-3.166	0.562	-0.546
-19	834.767	861.555	889.114	3.198	-3.109	0.557	-0.541
-18	788.078	812.895	838.409	3.138	-3.052	0.551	-0.536
-17	744.551	767.557	791.194	3.079	-2.997	0.545	-0.530

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R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
-16	703.923	725.262	747.173	3.021	-2.942	0.539	-0.525
-15	665.955	685.759	706.082	2.963	-2.887	0.533	-0.519
-14	630.435	648.823	667.681	2.906	-2.834	0.526	-0.513
-13	597.168	614.249	631.756	2.850	-2.780	0.520	-0.507
-12	565.979	581.853	598.112	2.794	-2.728	0.514	-0.502
-11	536.711	551.468	566.575	2.739	-2.675	0.507	-0.496
-10	509.220	522.943	536.983	2.684	-2.624	0.501	-0.490
-9	483.374	496.140	509.192	2.630	-2.573	0.494	-0.483
-8	459.056	470.934	483.071	2.577	-2.522	0.488	-0.477
-7	436.156	447.211	458.499	2.524	-2.471	0.481	-0.471
-6	414.576	424.866	435.367	2.471	-2.421	0.474	-0.465
-5	394.224	403.803	413.574	2.419	-2.372	0.467	-0.458
-4	375.018	383.937	393.028	2.367	-2.322	0.460	-0.452
-3	356.881	365.185	373.645	2.316	-2.274	0.453	-0.445
-2	339.742	347.475	355.348	2.265	-2.225	0.446	-0.438
-1	323.538	330.738	338.065	2.215	-2.177	0.439	-0.431
0	308.207	314.913	321.731	2.165	-2.129	0.432	-0.425
1	293.697	299.940	306.285	2.115	-2.081	0.425	-0.418
2	279.954	285.767	291.671	2.066	-2.034	0.417	-0.411
3	266.934	272.345	277.838	2.017	-1.986	0.410	-0.404
4	254.590	259.627	264.737	1.968	-1.940	0.402	-0.396
5	242.884	247.572	252.325	1.919	-1.893	0.395	-0.389
6	231.778	236.139	240.559	1.871	-1.847	0.387	-0.382
7	221.236	225.293	229.402	1.823	-1.800	0.379	-0.374
8	211.226	214.999	218.817	1.776	-1.754	0.371	-0.367
9	201.717	205.225	208.772	1.728	-1.709	0.364	-0.359
10	192.681	195.941	199.236	1.681	-1.663	0.356	-0.352
11	184.092	187.121	190.180	1.634	-1.618	0.348	-0.344
12	175.925	178.737	181.576	1.588	-1.573	0.340	-0.336
13	168.157	170.767	173.400	1.541	-1.528	0.331	-0.328
14	160.766	163.187	165.628	1.495	-1.483	0.323	-0.320
15	153.731	155.976	158.237	1.449	-1.439	0.315	-0.312
16	147.034	149.114	151.208	1.404	-1.394	0.306	-0.304
17	140.657	142.582	144.520	1.358	-1.350	0.298	-0.296
18	134.582	136.364	138.155	1.313	-1.306	0.289	-0.287
19	128.794	130.442	132.097	1.268	-1.262	0.280	-0.279
20	123.279	124.800	126.328	1.224	-1.219	0.271	-0.270
21	118.021	119.425	120.834	1.179	-1.175	0.262	-0.261
22	113.009	114.303	115.600	1.135	-1.132	0.252	-0.251
23	108.229	109.420	110.614	1.090	-1.089	0.240	-0.240

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温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
24	103.669	104.765	105.862	1.047	-1.046	0.224	-0.223
25	99.000	100.000	101.000	1.000	-1.000	0.215	-0.215
26	95.092	96.091	97.091	1.040	-1.039	0.261	-0.261
27	91.055	92.051	93.049	1.083	-1.081	0.263	-0.263
28	87.205	88.197	89.191	1.126	-1.124	0.271	-0.271
29	83.532	84.518	85.507	1.170	-1.166	0.281	-0.281
30	80.028	81.007	81.989	1.212	-1.208	0.292	-0.291
31	76.683	77.654	78.629	1.255	-1.250	0.303	-0.302
32	73.491	74.453	75.419	1.298	-1.291	0.315	-0.313
33	70.444	71.395	72.353	1.340	-1.333	0.326	-0.324
34	67.534	68.475	69.422	1.383	-1.374	0.338	-0.336
35	64.755	65.684	66.621	1.425	-1.415	0.350	-0.348
36	62.101	63.018	63.943	1.467	-1.456	0.362	-0.359
37	59.565	60.470	61.383	1.509	-1.496	0.374	-0.371
38	57.142	58.035	58.935	1.551	-1.537	0.386	-0.383
39	54.827	55.706	56.593	1.592	-1.577	0.398	-0.395
40	52.615	53.480	54.354	1.634	-1.617	0.411	-0.407
41	50.500	51.351	52.211	1.675	-1.657	0.423	-0.419
42	48.477	49.314	50.161	1.716	-1.697	0.436	-0.431
43	46.544	47.366	48.199	1.757	-1.737	0.448	-0.443
44	44.694	45.503	46.321	1.798	-1.776	0.461	-0.455
45	42.925	43.719	44.523	1.839	-1.815	0.474	-0.468
46	41.233	42.012	42.802	1.879	-1.854	0.487	-0.480
47	39.614	40.379	41.154	1.920	-1.893	0.500	-0.493
48	38.065	38.815	39.576	1.960	-1.932	0.513	-0.505
49	36.582	37.317	38.064	2.000	-1.971	0.526	-0.518
50	35.162	35.884	36.616	2.040	-2.009	0.539	-0.531
51	33.803	34.510	35.228	2.080	-2.047	0.552	-0.544
52	32.502	33.195	33.898	2.119	-2.085	0.566	-0.556
53	31.256	31.934	32.624	2.159	-2.123	0.579	-0.569
54	30.063	30.727	31.402	2.198	-2.161	0.592	-0.582
55	28.919	29.570	30.231	2.238	-2.198	0.606	-0.595
56	27.824	28.461	29.109	2.277	-2.236	0.620	-0.609
57	26.774	27.397	28.032	2.316	-2.273	0.633	-0.622
58	25.769	26.378	26.999	2.354	-2.310	0.647	-0.635
59	24.804	25.401	26.009	2.393	-2.347	0.661	-0.648
60	23.880	24.464	25.059	2.432	-2.384	0.675	-0.662
61	22.994	23.565	24.147	2.470	-2.420	0.689	-0.675
62	22.144	22.702	23.272	2.508	-2.457	0.703	-0.689

HANLUCK ELECTRONICS

翰 耐 电 子

Resistance - Temperature Table

R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
63	21.329	21.875	22.432	2.546	-2.493	0.717	-0.702
64	20.548	21.081	21.626	2.584	-2.529	0.732	-0.716
65	19.798	20.319	20.852	2.622	-2.565	0.746	-0.730
66	19.078	19.588	20.109	2.660	-2.600	0.760	-0.744
67	18.388	18.886	19.395	2.697	-2.636	0.775	-0.757
68	17.725	18.212	18.710	2.734	-2.671	0.790	-0.771
69	17.089	17.565	18.052	2.771	-2.706	0.804	-0.785
70	16.479	16.943	17.419	2.809	-2.742	0.819	-0.799
71	15.892	16.346	16.812	2.845	-2.776	0.834	-0.814
72	15.329	15.773	16.228	2.882	-2.811	0.849	-0.828
73	14.789	15.222	15.666	2.919	-2.846	0.864	-0.842
74	14.269	14.692	15.127	2.955	-2.880	0.879	-0.856
75	13.770	14.184	14.608	2.991	-2.914	0.894	-0.871
76	13.291	13.694	14.109	3.028	-2.948	0.909	-0.885
77	12.830	13.224	13.629	3.064	-2.982	0.924	-0.900
78	12.387	12.772	13.168	3.099	-3.016	0.940	-0.914
79	11.961	12.337	12.724	3.135	-3.050	0.955	-0.929
80	11.552	11.919	12.297	3.171	-3.083	0.971	-0.944
81	11.158	11.517	11.886	3.206	-3.116	0.986	-0.959
82	10.780	11.130	11.491	3.241	-3.149	1.002	-0.974
83	10.415	10.758	11.110	3.277	-3.182	1.018	-0.989
84	10.065	10.400	10.744	3.312	-3.215	1.034	-1.004
85	9.708	10.035	10.371	3.348	-3.250	1.049	-1.018
86	9.404	9.723	10.052	3.381	-3.280	1.066	-1.034
87	9.092	9.403	9.725	3.416	-3.312	1.082	-1.049
88	8.791	9.096	9.410	3.450	-3.345	1.098	-1.064
89	8.502	8.799	9.106	3.484	-3.377	1.114	-1.080
90	8.224	8.514	8.814	3.518	-3.408	1.130	-1.095
91	7.956	8.239	8.532	3.552	-3.440	1.147	-1.111
92	7.697	7.974	8.260	3.586	-3.472	1.163	-1.126
93	7.449	7.719	7.999	3.620	-3.503	1.180	-1.142
94	7.209	7.473	7.746	3.653	-3.534	1.196	-1.157
95	6.978	7.236	7.503	3.687	-3.565	1.213	-1.173
96	6.756	7.008	7.268	3.720	-3.596	1.230	-1.189
97	6.541	6.787	7.042	3.753	-3.627	1.247	-1.205
98	6.334	6.575	6.824	3.786	-3.658	1.264	-1.221
99	6.135	6.370	6.613	3.819	-3.688	1.281	-1.237
100	5.943	6.173	6.410	3.852	-3.719	1.298	-1.253
101	5.758	5.982	6.214	3.884	-3.749	1.315	-1.269
102	5.579	5.798	6.025	3.917	-3.779	1.332	-1.285

HANLUCK ELECTRONICS

翰 耐 电 子

Resistance - Temperature Table

R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
103	5.406	5.621	5.843	3.949	-3.809	1.350	-1.302
104	5.240	5.449	5.666	3.981	-3.838	1.367	-1.318
105	5.080	5.284	5.496	4.013	-3.868	1.385	-1.334
106	4.925	5.124	5.332	4.045	-3.898	1.402	-1.351
107	4.775	4.970	5.173	4.077	-3.927	1.420	-1.368
108	4.631	4.822	5.020	4.109	-3.956	1.438	-1.384
109	4.491	4.678	4.872	4.140	-3.985	1.455	-1.401
110	4.357	4.539	4.729	4.172	-4.014	1.473	-1.418
111	4.227	4.405	4.590	4.203	-4.043	1.491	-1.434
112	4.101	4.276	4.457	4.234	-4.071	1.509	-1.451
113	3.980	4.150	4.328	4.265	-4.100	1.527	-1.468
114	3.863	4.030	4.203	4.296	-4.128	1.546	-1.485
115	3.750	3.913	4.082	4.326	-4.156	1.564	-1.502
116	3.641	3.800	3.965	4.357	-4.185	1.582	-1.520
117	3.535	3.690	3.852	4.387	-4.213	1.601	-1.537
118	3.433	3.585	3.743	4.418	-4.240	1.619	-1.554
119	3.334	3.483	3.638	4.448	-4.268	1.638	-1.571
120	3.238	3.384	3.535	4.478	-4.296	1.656	-1.589
121	3.146	3.288	3.436	4.508	-4.323	1.675	-1.606
122	3.057	3.196	3.341	4.538	-4.350	1.694	-1.624
123	2.970	3.106	3.248	4.567	-4.377	1.713	-1.642
124	2.887	3.020	3.158	4.597	-4.404	1.732	-1.659
125	2.806	2.936	3.072	4.626	-4.431	1.751	-1.677
126	2.727	2.855	2.988	4.656	-4.458	1.770	-1.695
127	2.652	2.776	2.906	4.685	-4.485	1.789	-1.713
128	2.578	2.700	2.827	4.714	-4.511	1.808	-1.731
129	2.507	2.626	2.751	4.743	-4.538	1.828	-1.749
130	2.438	2.555	2.677	4.772	-4.564	1.847	-1.767
131	2.372	2.486	2.605	4.801	-4.590	1.867	-1.785
132	2.307	2.419	2.536	4.829	-4.616	1.886	-1.803
133	2.245	2.354	2.469	4.858	-4.642	1.906	-1.821
134	2.184	2.291	2.403	4.886	-4.668	1.926	-1.840
135	2.126	2.230	2.340	4.914	-4.694	1.946	-1.858
136	2.069	2.171	2.279	4.942	-4.719	1.966	-1.877
137	2.014	2.114	2.219	4.970	-4.745	1.986	-1.895
138	1.961	2.059	2.162	4.998	-4.770	2.006	-1.914
139	1.909	2.005	2.106	5.026	-4.795	2.026	-1.933
140	1.859	1.953	2.052	5.054	-4.820	2.046	-1.951
141	1.810	1.902	1.999	5.081	-4.845	2.066	-1.970
142	1.763	1.853	1.948	5.109	-4.870	2.087	-1.989

HANLUCK ELECTRONICS

翰 耐 电 子

Resistance - Temperature Table

R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
143	1.717	1.806	1.898	5.136	-4.895	2.107	-2.008
144	1.673	1.759	1.850	5.163	-4.919	2.128	-2.027
145	1.630	1.715	1.804	5.190	-4.944	2.148	-2.046
146	1.588	1.671	1.758	5.218	-4.968	2.169	-2.065
147	1.548	1.629	1.714	5.244	-4.993	2.190	-2.085
148	1.508	1.588	1.672	5.271	-5.017	2.211	-2.104
149	1.470	1.548	1.630	5.298	-5.041	2.231	-2.123
150	1.433	1.510	1.590	5.325	-5.065	2.252	-2.143
151	1.397	1.472	1.551	5.351	-5.089	2.274	-2.162
152	1.362	1.436	1.513	5.377	-5.112	2.295	-2.182
153	1.328	1.400	1.476	5.404	-5.136	2.316	-2.201
154	1.295	1.366	1.440	5.430	-5.160	2.337	-2.221
155	1.263	1.332	1.405	5.456	-5.183	2.359	-2.241
156	1.232	1.300	1.371	5.482	-5.206	2.380	-2.261
157	1.202	1.268	1.338	5.508	-5.230	2.402	-2.280
158	1.173	1.238	1.306	5.534	-5.253	2.423	-2.300
159	1.144	1.208	1.275	5.559	-5.276	2.445	-2.320
160	1.117	1.179	1.245	5.585	-5.299	2.467	-2.340
161	1.090	1.151	1.216	5.610	-5.322	2.489	-2.361
162	1.064	1.124	1.187	5.636	-5.345	2.511	-2.381
163	1.038	1.097	1.159	5.661	-5.367	2.533	-2.401
164	1.013	1.071	1.132	5.686	-5.390	2.555	-2.421
165	0.989	1.046	1.106	5.711	-5.412	2.577	-2.442
166	0.966	1.022	1.080	5.736	-5.435	2.599	-2.462
167	0.943	0.998	1.055	5.761	-5.457	2.621	-2.483
168	0.921	0.975	1.031	5.786	-5.479	2.644	-2.503
169	0.900	0.952	1.007	5.811	-5.501	2.666	-2.524
170	0.879	0.930	0.984	5.836	-5.523	2.689	-2.545
171	0.858	0.909	0.962	5.860	-5.545	2.711	-2.566
172	0.839	0.888	0.940	5.885	-5.567	2.734	-2.586
173	0.819	0.868	0.919	5.909	-5.589	2.757	-2.607
174	0.800	0.848	0.898	5.933	-5.610	2.780	-2.628
175	0.782	0.829	0.878	5.957	-5.632	2.803	-2.649
176	0.764	0.810	0.859	5.982	-5.653	2.826	-2.671
177	0.747	0.792	0.840	6.006	-5.675	2.849	-2.692
178	0.730	0.774	0.821	6.030	-5.696	2.872	-2.713
179	0.714	0.757	0.803	6.053	-5.717	2.895	-2.734
180	0.698	0.740	0.785	6.077	-5.738	2.918	-2.756
181	0.682	0.724	0.768	6.101	-5.759	2.942	-2.777
182	0.667	0.708	0.751	6.125	-5.780	2.965	-2.799

HANLUCK ELECTRONICS

翰 耐 电 子

Resistance - Temperature Table

R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
183	0.652	0.692	0.735	6.148	-5.801	2.989	-2.820
184	0.638	0.677	0.719	6.172	-5.822	3.012	-2.842
185	0.624	0.663	0.704	6.195	-5.843	3.036	-2.864
186	0.610	0.648	0.689	6.218	-5.864	3.060	-2.885
187	0.597	0.634	0.674	6.241	-5.884	3.084	-2.907
188	0.584	0.620	0.659	6.265	-5.905	3.108	-2.929
189	0.571	0.607	0.645	6.288	-5.925	3.132	-2.951
190	0.559	0.594	0.632	6.311	-5.945	3.156	-2.973
191	0.547	0.581	0.618	6.334	-5.966	3.180	-2.995
192	0.535	0.569	0.605	6.356	-5.986	3.204	-3.017
193	0.524	0.557	0.593	6.379	-6.006	3.229	-3.040
194	0.512	0.545	0.580	6.402	-6.026	3.253	-3.062
195	0.502	0.534	0.568	6.424	-6.046	3.277	-3.084
196	0.491	0.523	0.556	6.447	-6.066	3.302	-3.107
197	0.481	0.512	0.545	6.469	-6.086	3.327	-3.129
198	0.470	0.501	0.534	6.492	-6.105	3.351	-3.152
199	0.461	0.491	0.523	6.514	-6.125	3.376	-3.174
200	0.451	0.481	0.512	6.536	-6.145	3.401	-3.197
201	0.442	0.471	0.501	6.559	-6.164	3.426	-3.220
202	0.432	0.461	0.491	6.581	-6.184	3.451	-3.243
203	0.423	0.451	0.481	6.603	-6.203	3.476	-3.266
204	0.415	0.442	0.472	6.625	-6.222	3.501	-3.289
205	0.406	0.433	0.462	6.647	-6.242	3.526	-3.312
206	0.398	0.424	0.453	6.668	-6.261	3.552	-3.335
207	0.390	0.416	0.444	6.690	-6.280	3.577	-3.358
208	0.382	0.407	0.435	6.712	-6.299	3.603	-3.381
209	0.374	0.399	0.426	6.734	-6.318	3.628	-3.404
210	0.366	0.391	0.418	6.755	-6.337	3.654	-3.428
211	0.359	0.383	0.410	6.777	-6.356	3.679	-3.451
212	0.352	0.376	0.401	6.798	-6.375	3.705	-3.474
213	0.345	0.368	0.394	6.819	-6.393	3.731	-3.498
214	0.338	0.361	0.386	6.841	-6.412	3.757	-3.522
215	0.331	0.354	0.378	6.862	-6.431	3.783	-3.545
216	0.325	0.347	0.371	6.883	-6.449	3.809	-3.569
217	0.318	0.340	0.364	6.904	-6.468	3.835	-3.593
218	0.312	0.334	0.357	6.925	-6.486	3.862	-3.617
219	0.306	0.327	0.350	6.946	-6.505	3.888	-3.641
220	0.300	0.321	0.343	6.967	-6.523	3.914	-3.665
221	0.294	0.314	0.337	6.988	-6.541	3.941	-3.689
222	0.288	0.308	0.330	7.009	-6.559	3.967	-3.713
223	0.283	0.302	0.324	7.030	-6.577	3.994	-3.737

HANLUCK ELECTRONICS

翰 耐 电 子

Resistance - Temperature Table

R25=100KΩ 精度:±1% B25/50=3950K B25/85=4092K 精度:±1%(P182-6B2)

温度(℃)	电阻(KΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
224	0.277	0.297	0.318	7.051	-6.596	4.021	-3.761
225	0.272	0.291	0.312	7.071	-6.614	4.047	-3.785
226	0.266	0.285	0.306	7.092	-6.632	4.074	-3.810
227	0.261	0.280	0.300	7.112	-6.649	4.101	-3.834
228	0.256	0.275	0.294	7.133	-6.667	4.128	-3.859
229	0.251	0.269	0.289	7.153	-6.685	4.155	-3.883
230	0.247	0.264	0.283	7.174	-6.703	4.182	-3.908
231	0.242	0.259	0.278	7.194	-6.721	4.210	-3.933
232	0.237	0.255	0.273	7.214	-6.738	4.237	-3.957
233	0.233	0.250	0.268	7.235	-6.756	4.264	-3.982
234	0.228	0.245	0.263	7.255	-6.773	4.292	-4.007
235	0.224	0.241	0.258	7.275	-6.791	4.319	-4.032
236	0.220	0.236	0.253	7.295	-6.808	4.347	-4.057
237	0.216	0.232	0.249	7.315	-6.826	4.375	-4.082
238	0.212	0.227	0.244	7.335	-6.843	4.402	-4.107
239	0.208	0.223	0.240	7.355	-6.860	4.430	-4.132
240	0.204	0.219	0.235	7.375	-6.878	4.458	-4.158
241	0.200	0.215	0.231	7.395	-6.895	4.486	-4.183
242	0.197	0.211	0.227	7.414	-6.912	4.514	-4.208
243	0.193	0.207	0.223	7.434	-6.929	4.542	-4.234
244	0.189	0.204	0.219	7.454	-6.946	4.571	-4.259
245	0.186	0.200	0.215	7.473	-6.963	4.599	-4.285
246	0.183	0.196	0.211	7.493	-6.980	4.627	-4.310
247	0.179	0.193	0.207	7.513	-6.997	4.656	-4.336
248	0.176	0.189	0.204	7.532	-7.014	4.684	-4.362
249	0.173	0.186	0.200	7.552	-7.031	4.713	-4.388
250	0.170	0.182	0.196	7.571	-7.047	4.742	-4.414