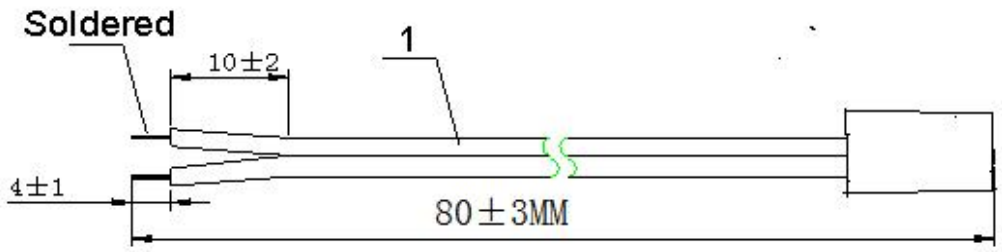
NTC 温度传感器组件

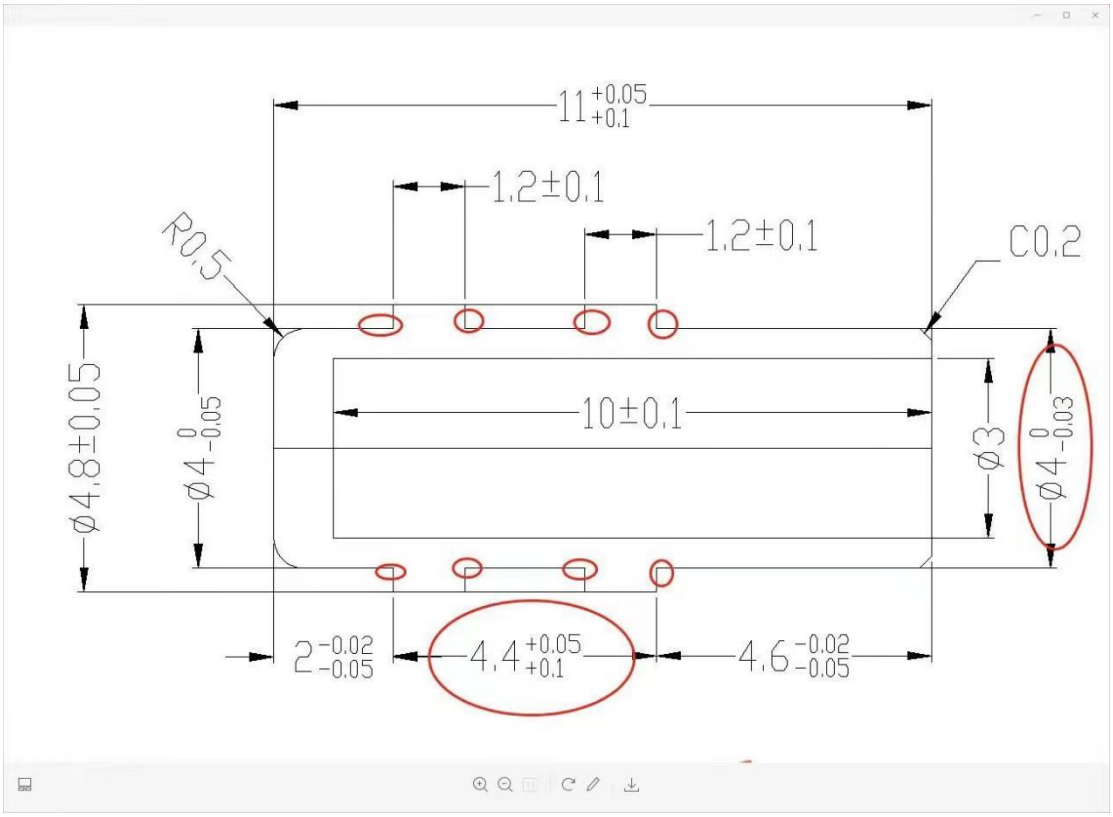
特点及应用

· 温度仪表 · 空调 · 家电
· 冷链 · 工业控制 · 新能源车
· 环境监测 · 灵敏度高 · 响应速度快

产品外形



1-1. 产品外形图



1-2 头部钢壳

单位（mm）

材料清单

NO.	材料名称 Material name	规格/型号 Type/model	数 量 Quantity
2-1	电线	U2651 28AWG TS 30V 105℃ 黑色(0.9X2.54MM)	2PCS
2-2	钢壳	规格详见 1-2	/
2-3	NTC 电阻	R25=100KΩ ±1% B25/50=3950K±1%	1PCS

电气性能

NO.	项目 Item	代号 Symbol	测试条件 Test Conditions	最小值 Min.	中心值 Nor.	最大值 Max.	单位 Unit
3-1	25℃电阻值 Resistance At 25℃	R25	Ta=25℃±0.05℃ P_T≦0.1mW	99.00	100.00	101.00	KΩ
3-2	50℃电阻值 Resistance At 50℃	R50	Ta=85℃±0.05℃ P_T≦0.1mW	/	35.882	/	KΩ
3-3	B值 B Value	$B_{25/50}$	(1779.707* LnK)	3869.31	3949.98	4031.05	K
3-4	耗散系数 dissipative coefficient	δ	Ta=25℃(in air)	/	5.0	/	mW/℃
3-5	响应时间-液体中 Response Time-In liquid	τ	25℃→85℃ T1=25+(85-25)*63.2%=62.92℃	/	/	12	Sec
3-6	绝缘测试 Insulation test	/	DC100V 1Sec	50	/	/	MΩ

最大使用等级

NO.	项目 Item	规格 Specification	单位 Unit
4-1	工作温度范围 Operation Temperature Range	-30 ～ +125	℃
4-2	NTC 电阻工作温度范围 NTC Working Temp.Range	-40 ～ +125	℃

机械性试验

NO.	项目 Item	技术要求 Pass Criteria	测试条件 Test Conditions
5-1	拉力测试 pull test	不松脱、不变形 Not loose, not deformed	加载 9.8N（1kg）1 分钟 (Fasten body with a Load Applied to each lead 1.0 kg for 1min)
5-2	自由落体测试 Drop Test	无明显损伤 No visible 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)

可靠性测试

NO.	项目 Item	技术要求 Pass Criteria	测试条件 Test Conditions
6-1	高温储存 High Temperature Storage Life Test	⊿R/R25 ≤±3% No visible damage	125±5℃，1000±24 hrs
6-2	低温储存 low temperature storage		-30±5℃，1000±24 hrs
6-3	恒温恒湿测试 Humidity test		40±2℃，90%～95% RH,1000H±24 hrs
6-4	温度冲击试验 Temp. cycle test		－30℃×30min→25℃×5min→125℃×30min→25℃×5min，10Cycles

铬铁焊接条件

NO.	项目 Item	测试条件 settings/parameters
7-1	烙铁温度 Temperature of Soldering Iron-tip	T≤360℃
7-2	焊接时间 Soldering Time	S≤3Sec
7-3	距电阻的距离 Distance From Thermistor	L≥10mm

产品储存条件

储存条件(Storage Conditions) :

1.储存温度(Ambicnt 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)

4.储存时间(Period of Storage): 1 year

R-T 表							
B 值：25/50=3950 ±1%							
R25=100KΩ ±1%							
x	Rst	Rmin		Temp. ©	Rmax	Rst	Rmin
913	7309.017	6945.387		126	3.345	3.192	3.046
645	6784.067	6449.946		127	3.258	3.108	2.965
600	6300.722	5993.557		128	3.174	3.027	2.887
946	5855.393	5572.865		129	3.092	2.948	2.811
210	5444.822	5184.827		130	3.012	2.871	2.737
239	5066.055	4826.679		131	2.935	2.797	2.665
172	4716.406	4495.910		132	2.861	2.725	2.596
409	4393.436	4190.236		133	2.788	2.655	2.529
584	4094.926	3907.580		134	2.717	2.587	2.463
547	3818.854	3646.048		135	2.649	2.522	2.400
338	3563.381	3403.917		136	2.582	2.458	2.339
173	3326.830	3179.615		137	2.518	2.396	2.279
423	3107.670	2971.707		138	2.455	2.335	2.221
605	2904.506	2778.883		139	2.394	2.277	2.165
362	2716.062	2599.948		140	2.335	2.220	2.110
457	2541.173	2433.806		141	2.278	2.165	2.057
757	2378.774	2279.458		142	2.222	2.111	2.006
226	2227.890	2135.987		143	2.168	2.059	1.956
918	2087.627	2002.554		144	2.115	2.008	1.907
963	1957.168	1878.391		145	2.064	1.959	1.860
567	1835.764	1762.791		146	2.014	1.911	1.814
996	1722.727	1655.046		147	1.965	1.865	1.769
545	1617.425	1554.669		148	1.918	1.820	1.726

603	1519.279	1461.112		149	1.873	1.776	1.684
608	1427.756	1373.869		150	1.828	1.733	1.643
044	1342.366	1292.476		151	1.785	1.692	1.604
435	1262.660	1216.506		152	1.743	1.651	1.565
343	1188.223	1145.568		153	1.702	1.612	1.527
364	1118.672	1079.301		154	1.662	1.574	1.491
124	1053.657	1017.374		155	1.623	1.537	1.455
230	992.852	959.528		156	1.585	1.501	1.421
921	935.958	904.961		157	1.549	1.466	1.387
403	882.700	853.878		158	1.513	1.431	1.354
410	832.822	806.037		159	1.478	1.398	1.323
695	786.088	761.213		160	1.444	1.366	1.292
029	742.282	719.198		161	1.411	1.334	1.262
201	701.201	679.801		162	1.379	1.304	1.232
016	662.659	642.845		163	1.348	1.274	1.204
291	626.484	608.164		164	1.317	1.245	1.176
358	592.516	575.608		165	1.288	1.216	1.149
562	560.606	545.038		166	1.259	1.189	1.123
379	530.618	516.206		167	1.231	1.162	1.097
056	502.425	489.104		168	1.203	1.136	1.072
470	475.907	463.622		169	1.177	1.110	1.048
503	450.956	439.653		170	1.150	1.086	1.024
049	427.470	417.104		171	1.125	1.061	1.001
096	405.353	395.799		172	1.100	1.038	0.979
636	384.518	375.574		173	1.076	1.015	0.957
435	364.883	356.492		174	1.053	0.993	0.936
363	346.372	338.528		175	1.030	0.971	0.915
383	328.914	321.579		176	1.008	0.950	0.895
381	312.443	305.626		177	0.986	0.929	0.875
336	296.897	290.566		178	0.965	0.909	0.856
189	282.219	276.346		179	0.944	0.889	0.837
386	268.356	262.912		180	0.924	0.870	0.819
377	255.257	250.213		181	0.904	0.851	0.801
615	242.877	238.205		182	0.885	0.833	0.784
558	231.171	226.843		183	0.866	0.815	0.767
160	220.099	216.090		184	0.848	0.798	0.750
378	209.623	205.914		185	0.830	0.781	0.734
180	199.708	196.275		186	0.813	0.764	0.718
529	190.320	187.146		187	0.796	0.748	0.703
392	181.429	178.495		188	0.779	0.732	0.688
741	173.005	170.294		189	0.763	0.717	0.674
545	165.021	162.519		190	0.747	0.702	0.660

782	157.452	155.142		191	0.732	0.688	0.646
427	150.275	148.138		192	0.717	0.673	0.632
442	143.465	141.501		193	0.702	0.659	0.619
323	137.004	135.195		194	0.688	0.646	0.606
544	130.870	129.205		195	0.674	0.633	0.594
583	125.046	123.516		196	0.660	0.620	0.581
925	119.515	118.109		197	0.647	0.607	0.569
551	114.259	112.970		198	0.634	0.595	0.558
447	109.264	108.083		199	0.621	0.583	0.546
597	104.516	103.435		200	0.609	0.571	0.535
000	100.000	99.000		201	0.597	0.559	0.524
21	95.705	94.690		202	0.585	0.548	0.514
34	91.618	90.604		203	0.573	0.537	0.503
42	87.728	86.717		204	0.562	0.526	0.493
37	84.025	83.017		205	0.551	0.516	0.483
04	80.499	79.497		206	0.540	0.506	0.473
39	77.139	76.145		207	0.530	0.496	0.464
30	73.939	72.953		208	0.519	0.486	0.455
72	70.888	69.911		209	0.509	0.476	0.446
55	67.980	67.013		210	0.499	0.467	0.437
72	65.207	64.250		211	0.489	0.458	0.429
16	62.562	61.617		212	0.480	0.449	0.420
81	60.039	59.104		213	0.471	0.440	0.412
61	57.630	56.709		214	0.462	0.432	0.404
50	55.331	54.423		215	0.453	0.424	0.396
42	53.136	52.241		216	0.444	0.415	0.388
33	51.040	50.158		217	0.436	0.407	0.381
16	49.038	48.169		218	0.428	0.400	0.373
89	47.124	46.270		219	0.420	0.392	0.366
47	45.295	44.454		220	0.412	0.385	0.359
84	43.547	42.721		221	0.404	0.377	0.352
98	41.875	41.064		222	0.397	0.370	0.346
85	40.276	39.480		223	0.389	0.363	0.339
41	38.746	37.964		224	0.382	0.356	0.333
63	37.283	36.515		225	0.375	0.350	0.326
41	35.882	35.135		226	0.368	0.343	0.320
89	34.541	33.805		227	0.361	0.337	0.314
91	33.256	32.535		228	0.354	0.331	0.308
47	32.026	31.319		229	0.348	0.325	0.303
55	30.848	30.155		230	0.342	0.319	0.297
12	29.719	29.039		231	0.335	0.313	0.291
17	28.637	27.971		232	0.329	0.307	0.286

66	27.600	26.947		233	0.323	0.301	0.281
58	26.605	25.966		234	0.318	0.296	0.276
91	25.652	25.025		235	0.312	0.290	0.271
64	24.737	24.123		236	0.306	0.285	0.266
73	23.859	23.258		237	0.301	0.280	0.261
18	23.017	22.428		238	0.295	0.275	0.256
98	22.208	21.632		239	0.290	0.270	0.251
10	21.432	20.868		240	0.285	0.265	0.247
52	20.687	20.135		241	0.280	0.261	0.242
25	19.971	19.431		242	0.275	0.256	0.238
26	19.284	18.755		243	0.270	0.251	0.234
54	18.623	18.106		244	0.265	0.247	0.230
08	17.989	17.482		245	0.261	0.243	0.226
87	17.379	16.883		246	0.256	0.238	0.222
90	16.792	16.307		247	0.252	0.234	0.218
15	16.228	15.754		248	0.247	0.230	0.214
63	15.686	15.222		249	0.243	0.226	0.210
31	15.164	14.710		250	0.239	0.222	0.206
19	14.662	14.218		251	0.235	0.218	0.203
26	14.180	13.745		252	0.231	0.214	0.199
52	13.715	13.290		253	0.227	0.211	0.196
95	13.267	12.852		254	0.223	0.207	0.192
55	12.837	12.430		255	0.219	0.204	0.189
32	12.422	12.024		256	0.215	0.200	0.186
23	12.023	11.633		257	0.212	0.197	0.182
30	11.638	11.257		258	0.208	0.193	0.179
51	11.267	10.895		259	0.205	0.190	0.176
84	10.910	10.547		260	0.201	0.187	0.173
30	10.566	10.212		261	0.198	0.184	0.170
92	10.234	9.887		262	0.195	0.181	0.167
64	9.914	9.575		263	0.191	0.177	0.165
48	9.605	9.273		264	0.188	0.175	0.162
43	9.308	8.983		265	0.185	0.172	0.159
49	9.021	8.703		266	0.182	0.169	0.156
65	8.744	8.433		267	0.179	0.166	0.154
91	8.477	8.173		268	0.176	0.163	0.151
27	8.219	7.922		269	0.173	0.160	0.149
71	7.970	7.680		270	0.170	0.158	0.146
25	7.730	7.446		271	0.168	0.155	0.144
86	7.498	7.220		272	0.165	0.153	0.141
56	7.274	7.002		273	0.162	0.150	0.139
34	7.058	6.792		274	0.160	0.148	0.137

19	6.849	6.589		275	0.157	0.145	0.134
12	6.647	6.392		276	0.154	0.143	0.132
11	6.452	6.203		277	0.152	0.141	0.130
17	6.264	6.020		278	0.150	0.138	0.128
30	6.082	5.843		279	0.147	0.136	0.126
48	5.906	5.672		280	0.145	0.134	0.124
73	5.735	5.507		281	0.143	0.132	0.122
03	5.571	5.347		282	0.140	0.130	0.120
39	5.412	5.193		283	0.138	0.128	0.118
80	5.258	5.043		284	0.136	0.126	0.116
27	5.109	4.899		285	0.134	0.124	0.114
78	4.964	4.759		286	0.132	0.122	0.112
34	4.825	4.624		287	0.130	0.120	0.111
95	4.690	4.493		288	0.128	0.118	0.109
60	4.559	4.367		289	0.126	0.116	0.107
29	4.433	4.245		290	0.124	0.114	0.105
03	4.311	4.126		291	0.122	0.112	0.104
80	4.192	4.011		292	0.120	0.111	0.102
62	4.077	3.900		293	0.118	0.109	0.100
47	3.966	3.793		294	0.116	0.107	0.099
35	3.858	3.689		295	0.114	0.106	0.097
27	3.754	3.588		296	0.113	0.104	0.096
22	3.653	3.490		297	0.111	0.102	0.094
21	3.555	3.396		298	0.109	0.101	0.093
23	3.460	3.304		299	0.108	0.099	0.091
27	3.368	3.215		300	0.106	0.098	0.090
35	3.279	3.129					

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