Dongguan Ampfort Electronics Co., Ltd.	NO： AFT-192456
	Version： A/1

Specification For Approval

Customer name : _____

Product name : NTC Thermistor

Customer PN : _____

MFG PN : CWF503F3950FA125AW

MFG			Customer Confirmation		
Make	Check	Approval	Test	Check	Approval

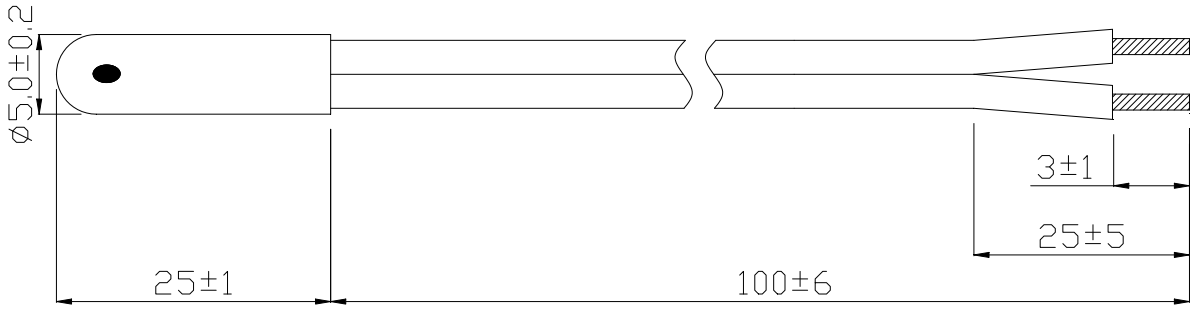
(Company name)

_____

Confirm got the spec and accept as our company's warehouse accept standard。

Version	Revise content	Forwarder	Date
A/0	Just Made	CHENG	2014-06-11
A/1	Change the length of the wire(L=100MM), Resistance accuracy is 1%	CHENG	2015-07-05

1、Overall Dimension （Unit：mm）



2、Material Explanation

NO	Material Name	Item/PN	Origin
2-1.	Lead wire	UL2651#26AWG*2C 105℃ 300V White	KL
2-2.	Thermistor	R25=50KΩ±1% B25/50=3950K±1% MF58	SH
2-3.	Epoxy Resin	J105/J106B/J05X Black	DB
2-4	Shell	Φ5.0*25 Round Head Stainless steel shell	XDL

3、 Part number ：

CWF ××× × ×××× × × ×××× × ×

① ② ③ ④ ⑤⑥ ⑦ ⑧⑨

①NTC Thermistor Mark；

②Nomanial resistor is value at 25degree,unit is Ohm， previous two digital representation significant digitsofresistance，third digital representation the number of zero；

③Resistance tolerance（%）；

Sign	E	F	G	H	J	K	X
resistance	±0.5	±1.0	±2.0	±3.0	±5.0	±10	Special

④B Value constant sign In general, it is value of 25/50Deg，other conditions will remark and explain；

⑤B Value tolerance sign（%）；

Sign	E	F	G	H	J	K	X
B Value	±0.5	±1.0	±2.0	±3.0	±5.0	±10	Special

⑥Temperature code of B value caculating；

Sign	A	B	C	D	E	F	G	H	M	N	X
Two temp. spots	25/50	25/ 85	-20/25	0/25	0/50	0/100	5/25	25/75	25/100	100/200	特殊 B 值

⑦Length Sign，unit is mm ；

⑧Head shape sign ;

Sign	A	B	C
Shape	Shell embedment type	Epoxy resin encapsulate type	Special

⑨Difinition code sign。

Sign	C	J	T	W	R	X
Item	Standard	Glue Shell	Shell	Wire	Tube	Special

4、Electrical Performance

NO	Item	Sign	Test Conditions	Min.	Normal value	Max.	Unit
4-1.	Resistance at 25℃	R25	Ta=25±0.05℃ P_T≦0.1mw	49.5	50	50.5	KΩ
4-2.	B Value	B25/50	$B=LN\frac{R_{TI}}{R_{T2}}/(\frac{1}{T1}-\frac{1}{T2})$	3910.5	3950	3989.5	k
4-3.	Dissipation factor	σ	Ta=25±0.5℃	2.5		/	mw/℃
4-4.	Time constant	τ	Ta=25±0.5℃	/	/	20	sec
4-5.	Insulation resistance	/	500VDC	100	/	/	MΩ
4-6	High-voltage Insulation Test	/	1500VAC	5			Sec
4-7	Operating temp.range	/	/	-30	/	100	℃

5、Reliability Test

NO	Item	Technical requirements	Test conditions and method
5-1.	High temp. Test	ΔR/R25≤±3% ΔB/B≤±3% No change with withstand voltage、 Insalution performance。 Appearance without damage.	100±5℃，power on 500±24 hrs，DC0.2mA
5-2.	Low temp. tes		-15±5℃，power on 500±24 hrs，DC0.2mA
5-3.	Endure moisture test		Store in environment 55±2℃,90%-95%RH for 240±24 hrs
5-4.	Temp. cycle test		–20℃×30min→Room temp.×10min→ in 100℃ water×30min→Room temp.×10min 10 cycles
5-5	Load electrify test		Power on DC1mA,500hrs in room temp. and humid。
5-6	Drop test		Free fall into concrete floor from height 1m ， 10 cycle。
5-7	Vibration test		Frequency range：10～55HZ Total amplitude 1.52mm 1 cycle 1 min ， direction and time X、Y、Z axs 2Hr each。
5-8	Bending test		Bend 180°binding site wire and epoxy resin。Back and forth 10 times

6、Storage Method

6.1 In the process of storage and transportation, per stack height is not more than 4 CTN products.

6.2 Available with all transport method, but avoid the rain, snow of direct or indirect leaching and mechanical damage.

6.3 Products should be stored in the temperature of environment - 10 ℃ / + 40 ℃, relative humidity is not more than 80%, environment should not have acid, alkali and corrosion gas or radioactive source.

R－T CONVERSION TABLE

R_{25}=50KΩ±1%　　$B_{25/50}$=3950K±1%

T/℃	Rmin	Rcen	Rmax	T/℃	Rmin	Rcen	Rmax
-40	1761.520	1844.680	1931.580	-2	178.357	182.507	186.734
-39	1641.430	1717.700	1797.330	-1	169.383	173.233	177.153
-38	1530.610	1600.600	1673.620	0	160.917	164.490	168.125
-37	1428.250	1492.520	1559.520	1	152.927	156.242	159.613
-36	1333.650	1392.690	1454.200	2	145.385	148.460	151.586
-35	1246.130	1300.400	1356.910	3	138.261	141.114	144.012
-34	1165.100	1215.020	1266.960	4	131.531	134.177	136.863
-33	1090.030	1135.970	1183.730	5	125.169	127.624	130.114
-32	1020.430	1062.730	1106.670	6	119.154	121.431	123.738
-31	955.856	994.822	1035.270	7	113.465	115.576	117.714
-30	895.894	931.805	969.058	8	108.082	110.038	112.019
-29	840.179	873.290	907.615	9	102.987	104.800	106.634
-28	788.377	818.920	850.561	10	98.219	99.901	101.600
-27	740.180	768.366	797.546	11	93.593	95.148	96.720
-26	695.309	721.330	748.251	12	89.263	90.703	92.157
-25	653.507	677.540	702.386	13	85.159	86.492	87.837
-24	614.540	636.744	659.685	14	81.268	82.501	83.744
-23	578.194	598.716	619.905	15	77.577	78.717	79.866
-22	544.272	563.246	582.824	16	74.076	75.129	76.190
-21	512.595	530.143	548.238	17	70.752	71.726	72.705
-20	482.995	499.231	515.960	18	67.598	68.496	69.399
-19	455.323	470.347	485.819	19	64.602	65.430	66.262
-18	429.437	443.345	457.658	20	61.755	62.519	63.285
-17	405.209	418.088	431.332	21	59.051	59.754	60.459
-16	382.522	394.449	406.708	22	56.480	57.127	57.775
-15	361.266	372.315	383.665	23	54.036	54.630	55.225
-14	341.340	351.579	362.088	24	51.711	52.257	52.802
-13	322.652	332.141	341.875	25	49.500	50.000	50.500
-12	305.117	313.913	322.930	26	47.353	47.853	48.352
-11	288.655	296.810	305.165	27	45.312	45.810	46.308
-10	273.193	280.755	288.498	28	43.370	43.865	44.362
-9	258.663	265.677	272.853	29	41.522	42.014	42.508
-8	245.004	251.509	258.162	30	39.763	40.252	40.743
-7	232.157	238.192	244.359	31	38.088	38.573	39.060
-6	220.069	225.667	231.385	32	36.493	36.973	37.455
-5	208.689	213.883	219.185	33	34.973	35.448	35.926
-4	197.972	202.792	207.707	34	33.525	33.994	34.467
-3	187.875	192.347	196.905	35	32.145	32.608	33.076

R－T CONVERSION TABLE

R_{25}=50KΩ±1%　　$B_{25/50}$=3950K±1%

T/℃	Rmin	Rcen	Rmax	T/℃	Rmin	Rcen	Rmax
36	30.829	31.286	31.748	74	7.392	7.609	7.831
37	29.573	30.025	30.480	75	7.147	7.359	7.576
38	28.376	28.821	29.270	76	6.911	7.118	7.331
39	27.234	27.672	28.115	77	6.683	6.886	7.094
40	26.144	26.575	27.011	78	6.465	6.663	6.867
41	25.103	25.527	25.957	79	6.254	6.448	6.648
42	24.109	24.527	24.949	80	6.052	6.242	6.437
43	23.160	23.570	23.986	81	5.857	6.043	6.233
44	22.253	22.656	23.065	82	5.669	5.851	6.037
45	21.386	21.783	22.184	83	5.489	5.666	5.849
46	20.558	20.947	21.342	84	5.314	5.488	5.667
47	19.766	20.148	20.535	85	5.147	5.317	5.491
48	19.009	19.384	19.764	86	4.985	5.151	5.322
49	18.285	18.653	19.026	87	4.829	4.992	5.159
50	17.580	17.941	18.307	88	4.679	4.838	5.002
51	16.929	17.283	17.642	89	4.534	4.690	4.850
52	16.294	16.641	16.993	90	4.395	4.547	4.704
53	15.687	16.027	16.372	91	4.260	4.409	4.563
54	15.105	15.438	15.777	92	4.130	4.276	4.426
55	14.548	14.874	15.206	93	4.005	4.148	4.295
56	14.014	14.334	14.659	94	3.884	4.024	4.168
57	13.503	13.816	14.134	95	3.768	3.904	4.045
58	13.013	13.319	13.631	96	3.655	3.789	3.926
59	12.543	12.843	13.149	97	3.546	3.677	3.812
60	12.092	12.386	12.686	98	3.442	3.569	3.701
61	11.660	11.948	12.241	99	3.340	3.465	3.595
62	11.246	11.527	11.815	100	3.242	3.365	3.491
63	10.848	11.124	11.405	101	3.148	3.268	3.392
64	10.467	10.736	11.012	102	3.057	3.174	3.295
65	10.101	10.364	10.634	103	2.968	3.083	3.202
66	9.749	10.007	10.271	104	2.883	2.995	3.112
67	9.411	9.664	9.923	105	2.801	2.911	3.025
68	9.087	9.335	9.587	106	2.721	2.829	2.940
69	8.776	9.018	9.265	107	2.644	2.749	2.859
70	8.477	8.713	8.956	108	2.570	2.673	2.780
71	8.189	8.421	8.658	109	2.498	2.599	2.703
72	7.913	8.140	8.372	110	2.428	2.527	2.630
73	7.648	7.869	8.096				