

Specification For Approval

Customer name : _____

Product name : NTC Thermistor

Customer PN : _____

MFG PN : ALT482X3966XA45AX

MFG			Customer Confirmation		
Make	Check	Approval	Test	Check	Approval

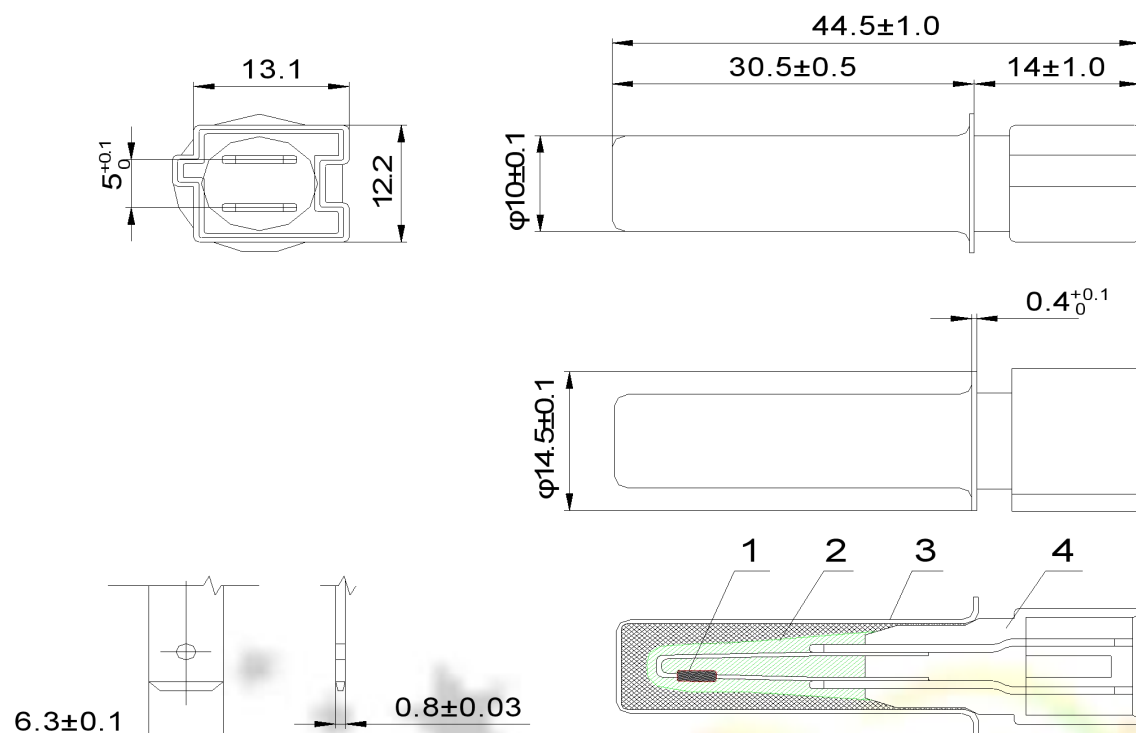
(Company name)

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

Version	Revise content	Forwarder	Date
A/0	Just made	Cheng	2016-03-02

1、 Overall Dimension

(Unit: mm)



解剖图

2、 Material Explanation

NO	COMPONENT	MATERIAL AND SPECIFICATIONS	Q'TY	REMARK
2-1.	THERMISTOR	MFB482X3950FB (R60=1.204KΩ±2% B25/85=3966K±1.5%)		S.M
2-2.	CAP	10.0X14.5X30.5 Expanded stainless steel shell (DES1410001 A-0)	SUS304	Y.T
2-3.	EPOXY FILLING	G-308:GU-308:G-008X Black		D. B
2-4.	TERMINAL	6.3 Type PBTB Connect socket Black	PBTB	S.M

3、 Part Number :

ALT - $\frac{x}{2}$ $\frac{xxx}{3}$ $\frac{x}{4}$ $\frac{x}{5}$ $\frac{xxxx}{6}$ 7

- (1) NTC Thermistor Mark;
- (2) Head shape sign (B:Housing Type, D:Dip-Coating, M:Molding);
- (3) Series Type (0:Epoxy coating structure, 1:Epoxy coating sturcture(high temp) ;
- (4) Nominal resistor is value at 25degree,unit is Ohm, previous two digital representation significant digitsofresistance, third digital representation the number of zero;
- (5) Resistance tolerance (%) ;
- (6) B Value constant sign In general, it is value of 25/50Deg, other conditions will remark and explain;
- (7) Length Sign, unit is mm ;

4、Electrical Performance:

Serial number	Item	Symbol	Test Conditions	Min.	Nor.	Max.	Unit
4-1.	Resistance At 0℃	R0	Ta=0±0.05℃ P _T ≦0.1mw	15.031	15.768	16.505	kΩ
4-2.	Resistance At 25℃	R25	Ta=25±0.05℃ P _T ≦0.1mw	4.661	4.828	4.995	kΩ
4-3.	Resistance At 30℃	R30	Ta=30±0.05℃ P _T ≦0.1mw	3.764	3.89	4.016	kΩ
4-4.	Resistance At 40℃	R40	Ta=40±0.05℃ P _T ≦0.1mw	2.5	2.573	2.645	kΩ
4-5.	Resistance At 60℃	R60	Ta=60±0.05℃ P _T ≦0.1mw	1.18	1.204	1.228	kΩ
4-6.	Resistance At 83℃	R83	Ta=83±0.05℃ P _T ≦0.1mw	0.538	0.554	0.569	kΩ
4-7.	Resistance At 85℃	R85	Ta=85±0.05℃ P _T ≦0.1mw	/	0.52		
4-8.	B Value	B25/85	$B=LN \frac{R_{T1}}{R_{T2}} / \left(\frac{1}{T1} - \frac{1}{T2} \right)$	3906.5	3966	4025.5	k
4-9.	Thermal Dissipation Constant	δ	T1=85±0.2℃, Ta=25±1℃ 自然-冷卻法	/	5.0	/	mw/℃
4-10.	Response Time	τ	T1=47.1±0.2℃, T2=85±0.2℃ Ta=25±1℃ 自然-冷卻法	/	16	/	sec
4-11.	Insulation test	/	500V _{DC} 1Sec	100	/	/	MΩ
4-12.	Hi-Pot Test	/	AC3750V 1Sec	/	/	0.5	Sec
4-13.	Product Working Temp.Range	/	/	-20	/	+130	℃
4-14.	Max Power rating at 25℃	/	200	/	/	/	mW

5、 Reliability Test

NO	Item	Technical requirements	Test conditions and method
5-1.	High temp. Test	$\Delta R/R25 \leq \pm 3\%$ $\Delta B/B \leq \pm 3\%$ No change with withstand voltage、 Insulation performance。 Appearance without damage.	80±5℃, power on 500±24 hrs, DC0.2mA
5-2.	Low temp. tes		-20±5℃, power on 500±24 hrs, DC0.2mA
5-3.	Endure moisture test		Store in environment 55±2℃,90%-95%RH for 500±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	Tensile tests		Applying 2 kg force lasts 1 min.
5-7	Drop test		Free fall into concrete floor from height 1M , 10 cycle.
5-8	Vibration test		Frequency range: 10~55HZ Total amplitude 1.52mm 1 cycle 1 min , direction and time X、 Y、 Z axis 2Hr each.
5-9	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.

8、 R—T TABLE

R -T Table

R60=1.204KΩ±2% B25/85=3966K±1.5%								
T(℃)	Rnom(KΩ)	Rmin(KΩ)	Rmax(KΩ)	dR/Rsoll (%)		dT (℃)		DeltaR/DeltaT (KΩ/℃)
				min	max	max	min	
0	15.768	15.031	16.505	-4.7	4.7	-0.94	0.94	0.784
1	14.984	14.292	15.676	-4.6	4.6	-0.94	0.94	0.740
2	14.244	13.593	14.894	-4.6	4.6	-0.93	0.93	0.700
3	13.544	12.933	14.156	-4.5	4.5	-0.93	0.93	0.660
4	12.884	12.309	13.459	-4.5	4.5	-0.92	0.92	0.625
5	12.259	11.718	12.800	-4.4	4.4	-0.92	0.92	0.590
6	11.669	11.160	12.178	-4.4	4.4	-0.91	0.91	0.559
7	11.110	10.631	11.589	-4.3	4.3	-0.91	0.91	0.528
8	10.582	10.131	11.033	-4.3	4.3	-0.90	0.90	0.500
9	10.082	9.658	10.506	-4.2	4.2	-0.90	0.90	0.473
10	9.609	9.209	10.008	-4.2	4.2	-0.89	0.89	0.450
11	9.159	8.783	9.535	-4.1	4.1	-0.88	0.88	0.426

12	8.733	8.378	9.088	-4.1	4.1	-0.88	0.88	0.403
13	8.330	7.995	8.664	-4.0	4.0	-0.87	0.87	0.383
14	7.947	7.632	8.262	-4.0	4.0	-0.87	0.87	0.363
15	7.584	7.287	7.881	-3.9	3.9	-0.87	0.87	0.343
16	7.241	6.960	7.521	-3.9	3.9	-0.86	0.86	0.327
17	6.914	6.650	7.178	-3.8	3.8	-0.85	0.85	0.310
18	6.604	6.355	6.854	-3.8	3.8	-0.85	0.85	0.294
19	6.310	6.075	6.546	-3.7	3.7	-0.84	0.85	0.279
20	6.031	5.809	6.253	-3.7	3.7	-0.83	0.83	0.266
21	5.765	5.556	5.975	-3.6	3.6	-0.83	0.83	0.252
22	5.513	5.315	5.711	-3.6	3.6	-0.82	0.83	0.240
23	5.273	5.086	5.460	-3.5	3.5	-0.82	0.82	0.228
24	5.045	4.868	5.221	-3.5	3.5	-0.82	0.81	0.217
25	4.828	4.661	4.995	-3.5	3.5	-0.81	0.81	0.207
26	4.621	4.464	4.779	-3.4	3.4	-0.80	0.81	0.196
27	4.425	4.276	4.574	-3.4	3.4	-0.80	0.80	0.187
28	4.238	4.097	4.379	-3.3	3.3	-0.79	0.79	0.178
29	4.060	3.927	4.193	-3.3	3.3	-0.78	0.78	0.170
30	3.890	3.764	4.016	-3.2	3.2	-0.78	0.78	0.162
31	3.728	3.610	3.847	-3.2	3.2	-0.77	0.77	0.154
32	3.574	3.462	3.687	-3.1	3.2	-0.76	0.77	0.147
33	3.427	3.321	3.534	-3.1	3.1	-0.76	0.76	0.140
34	3.287	3.187	3.388	-3.0	3.1	-0.75	0.76	0.133
35	3.154	3.059	3.249	-3.0	3.0	-0.75	0.75	0.127
36	3.027	2.936	3.117	-3.0	3.0	-0.75	0.74	0.122
37	2.905	2.820	2.990	-2.9	2.9	-0.73	0.73	0.116
38	2.789	2.708	2.870	-2.9	2.9	-0.74	0.74	0.110
39	2.679	2.602	2.755	-2.9	2.8	-0.73	0.72	0.106
40	2.573	2.500	2.645	-2.8	2.8	-0.72	0.71	0.101
41	2.472	2.403	2.540	-2.8	2.8	-0.71	0.70	0.097
42	2.375	2.310	2.440	-2.7	2.7	-0.71	0.71	0.092
43	2.283	2.222	2.344	-2.7	2.7	-0.69	0.69	0.088
44	2.195	2.137	2.253	-2.6	2.6	-0.69	0.69	0.084
45	2.111	2.055	2.166	-2.7	2.6	-0.69	0.68	0.081
46	2.030	1.978	2.082	-2.6	2.6	-0.68	0.68	0.077
47	1.953	1.903	2.002	-2.6	2.5	-0.68	0.66	0.074
48	1.879	1.832	1.926	-2.5	2.5	-0.67	0.67	0.070
49	1.809	1.764	1.853	-2.5	2.4	-0.66	0.65	0.068
50	1.741	1.699	1.783	-2.4	2.4	-0.65	0.65	0.065
51	1.676	1.637	1.716	-2.3	2.4	-0.64	0.66	0.061
52	1.615	1.577	1.652	-2.4	2.3	-0.63	0.62	0.060
53	1.555	1.519	1.591	-2.3	2.3	-0.63	0.63	0.057

54	1.498	1.464	1.532	-2.3	2.3	-0.63	0.63	0.054
55	1.444	1.412	1.476	-2.2	2.2	-0.62	0.62	0.052
56	1.392	1.361	1.422	-2.2	2.2	-0.62	0.60	0.050
57	1.342	1.313	1.371	-2.2	2.2	-0.60	0.60	0.048
58	1.294	1.266	1.321	-2.2	2.1	-0.61	0.59	0.046
59	1.248	1.222	1.274	-2.1	2.1	-0.59	0.59	0.044
60	1.204	1.180	1.228	-2.0	2.0	-0.56	0.56	0.043
61	1.161	1.137	1.186	-2.1	2.2	-0.60	0.62	0.040
62	1.121	1.097	1.145	-2.1	2.1	-0.62	0.62	0.039
63	1.082	1.058	1.105	-2.2	2.1	-0.63	0.61	0.038
64	1.044	1.021	1.067	-2.2	2.2	-0.64	0.64	0.036
65	1.0080	0.9859	1.0310	-2.2	2.3	-0.65	0.67	0.034
66	0.9739	0.9518	0.9959	-2.3	2.3	-0.67	0.66	0.033
67	0.9407	0.9191	0.9623	-2.3	2.3	-0.68	0.68	0.032
68	0.9088	0.8876	0.9300	-2.3	2.3	-0.69	0.69	0.031
69	0.8781	0.8574	0.8989	-2.4	2.4	-0.70	0.71	0.029
70	0.8487	0.8283	0.8690	-2.4	2.4	-0.72	0.72	0.028
71	0.8204	0.8004	0.8403	-2.4	2.4	-0.74	0.73	0.027
72	0.7932	0.7736	0.8127	-2.5	2.5	-0.75	0.74	0.026
73	0.7670	0.7478	0.7862	-2.5	2.5	-0.76	0.76	0.025
74	0.7418	0.7230	0.7606	-2.5	2.5	-0.78	0.78	0.024
75	0.7176	0.6992	0.7360	-2.6	2.6	-0.79	0.79	0.023
76	0.6943	0.6762	0.7123	-2.6	2.6	-0.80	0.80	0.023
77	0.6718	0.6541	0.6895	-2.6	2.6	-0.82	0.82	0.022
78	0.6502	0.6329	0.6675	-2.7	2.7	-0.83	0.83	0.021
79	0.6294	0.6124	0.6463	-2.7	2.7	-0.85	0.84	0.020
80	0.6093	0.5927	0.6260	-2.7	2.7	-0.86	0.87	0.019
81	0.5900	0.5738	0.6063	-2.7	2.8	-0.88	0.88	0.019
82	0.5715	0.5555	0.5874	-2.8	2.8	-0.89	0.89	0.018
83	0.5536	0.5379	0.5692	-2.8	2.8	-0.91	0.90	0.017
84	0.5363	0.5210	0.5516	-2.9	2.9	-0.92	0.92	0.017
85	0.5197	0.5047	0.5346	-2.9	2.9	-0.93	0.93	0.016
86	0.5036	0.4889	0.5183	-2.9	2.9	-0.95	0.95	0.016
87	0.4881	0.4738	0.5025	-2.9	3.0	-0.96	0.97	0.015
88	0.4732	0.4591	0.4873	-3.0	3.0	-0.98	0.98	0.014
89	0.4588	0.4450	0.4726	-3.0	3.0	-0.99	0.99	0.014
90	0.4449	0.4314	0.4585	-3.0	3.1	-1.02	1.02	0.013
91	0.4316	0.4183	0.4448	-3.1	3.1	-1.02	1.02	0.013
92	0.4186	0.4057	0.4316	-3.1	3.1	-1.04	1.05	0.012
93	0.4062	0.3935	0.4189	-3.1	3.1	-1.05	1.05	0.012
94	0.3941	0.3817	0.4066	-3.1	3.2	-1.07	1.08	0.012
95	0.3825	0.3703	0.3947	-3.2	3.2	-1.09	1.09	0.011

96	0.3713	0.3593	0.3832	-3.2	3.2	-1.10	1.09	0.011
97	0.3604	0.3487	0.3721	-3.2	3.2	-1.11	1.11	0.011
98	0.3499	0.3385	0.3614	-3.3	3.3	-1.13	1.14	0.010
99	0.3398	0.3286	0.3510	-3.3	3.3	-1.14	1.14	0.010
100	0.3300	0.3190	0.3410	-3.3	3.3	-1.17	1.17	0.009
101	0.3206	0.3099	0.3314	-3.3	3.4	-1.18	1.19	0.009
102	0.3115	0.3010	0.3221	-3.4	3.4	-1.21	1.22	0.009
103	0.3028	0.2924	0.3131	-3.4	3.4	-1.22	1.21	0.009
104	0.2943	0.2841	0.3044	-3.5	3.4	-1.23	1.22	0.008
105	0.2860	0.2761	0.2960	-3.5	3.5	-1.25	1.27	0.008
106	0.2781	0.2684	0.2878	-3.5	3.5	-1.3	1.3	0.008
107	0.2704	0.2609	0.2799	-3.5	3.5	-1.28	1.28	0.007
108	0.2630	0.2536	0.2723	-3.6	3.5	-1.31	1.29	0.007
109	0.2558	0.2466	0.2649	-3.6	3.6	-1.31	1.30	0.007
110	0.2488	0.2398	0.2578	-3.6	3.6	-1.32	1.32	0.007
111	0.2420	0.2332	0.2508	-3.6	3.6	-1.33	1.33	0.007
112	0.2354	0.2268	0.2440	-3.7	3.7	-1.34	1.34	0.006
113	0.2290	0.2206	0.2375	-3.7	3.7	-1.38	1.39	0.006
114	0.2229	0.2146	0.2311	-3.7	3.7	-1.38	1.37	0.006
115	0.2169	0.2088	0.2250	-3.7	3.7	-1.40	1.40	0.006
116	0.2111	0.2031	0.2190	-3.8	3.7	-1.43	1.41	0.006
117	0.2055	0.1977	0.2133	-3.8	3.8	-1.42	1.42	0.005
118	0.2000	0.1924	0.2077	-3.8	3.8	-1.46	1.48	0.005
119	0.1948	0.1873	0.2023	-3.9	3.9	-1.47	1.47	0.005
120	0.1897	0.1823	0.1970	-3.9	3.8	-1.45	1.43	0.005
121	0.1846	0.1774	0.1918	-3.9	3.9	-1.50	1.50	0.005
122	0.1798	0.1727	0.1868	-3.9	3.9	-1.48	1.46	0.005
123	0.1750	0.1681	0.1820	-3.9	4.0	-1.53	1.56	0.004
124	0.1705	0.1637	0.1772	-4.0	3.9	-1.51	1.49	0.005
125	0.1660	0.1594	0.1727	-4.0	4.0	-1.53	1.56	0.004
126	0.1617	0.1552	0.1682	-4.0	4.0	-1.55	1.55	0.004
127	0.1575	0.1512	0.1639	-4.0	4.1	-1.58	1.60	0.004
128	0.1535	0.1472	0.1597	-4.1	4.0	-1.62	1.59	0.004
129	0.1496	0.1434	0.1557	-4.1	4.1	-1.59	1.56	0.004
130	0.1457	0.1397	0.1517	-4.1	4.1	-1.60	1.60	

