

## Specification For Approval

**Customer name :** \_\_\_\_\_

**Product name :** NTC Thermistor

**Customer PN :** \_\_\_\_\_

**MFG PN :** CWFB0103FB-601X6c

MFG			Customer Confirmation		
Make	Check	Approval	Test	Check	Approval
HD CHENG	XR LU	DZ LING			

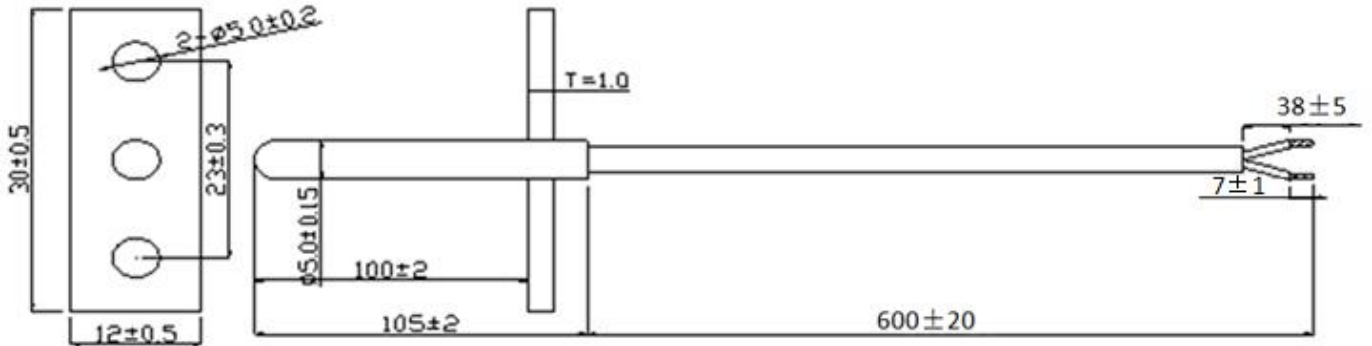
(Company name)

\_\_\_\_\_  
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
A/1	Change the length of the wire	Cheng	2016-04-08
A/2	Join the packing instructions	Cheng	2016-04-11
A/3	Wire stripping size line end	Cheng	2016-04-11
A/4	Peeling size change at the end	Cheng	2016-08-18

1、 Overall Dimension

(Unit: mm)



2、 Material explanation

NO	COMPONENT	MATERIAL AND SPECIFICATIONS	Q'TY	REMARK
1.	ELEMENT	R25=10KΩ±1% B25/50=3380K±1%	1	
2.	HOUSING	Y-201J Φ5.0×105+100+12×30+2-Φ5.0 Stainless steel components	1	
3.	COATING	Epoxy Resin		Black
4.	LEAD WIRE	UL2464 AWG24*2C 80℃ OD:3.6 L=600mm	1	Black
5.	TERMINAL	Peeling (7±1mm), On The Tin		

3、 Part Number :

CWF -  $\frac{\times}{2}$   $\frac{\times\times}{3}$   $\frac{\times}{4}$   $\frac{\times}{5}$   $\frac{\times\times\times}{6}$  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 structure(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:

NO	Item	Sign	Test Conditions	Min.	Normal value	Max.	Unit
1.	Resistance at 25°C	R25	Ta=25±0.05°C P <sub>T</sub> ≤0.1mw	9.9	10.0	10.1	kΩ
2.	B Value	B25/50	$B=LN \frac{R_{T1}}{R_{T2}} / \left( \frac{1}{T1} - \frac{1}{T2} \right)$	3346	3380	3414	k
3.	Dissipation factor	σ	Ta=25±0.5°C	3		/	mw/°C
4.	Time constant	τ	Ta=25±0.5°C	/	/	12	sec
5.	Insulation resistance	/	500VDC	100	/	/	MΩ
6.	Withstand voltage	/	1500V AC	5	/	/	Sec
7.	Operating temp.range	/	/	-10	/	+80	°C

#### 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°C, power on 500±24 hrs, DC0.2mA
5-2.	Low temp. tes		-20±5°C, power on 500±24 hrs, DC0.2mA
5-3.	Endure moisture test		Store in environment 55±2°C,90%-95%RH for 500±24 hrs
5-4.	Temp. cycle test		-20°C×30min→Room temp.×10min→ in 100°C 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

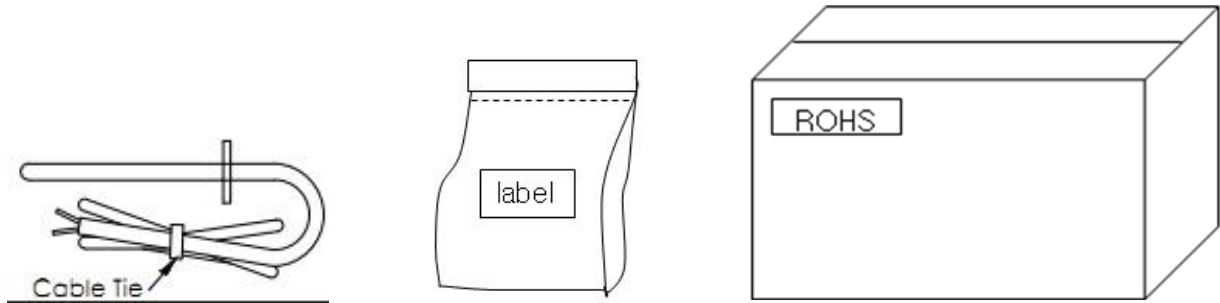
#### 6、Storage Method

**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 °C / + 40 °C, relative humidity is not more than 80%, environment should not have acid, alkali and corrosion gas or radioactive source.

### 7、 Packing Specification



Coble Tie

Ziplock Bag(Vinyl Bag)  
150\*200mm  
1 pcs  
  
(Don't attach label)

Out Box  
500\*400\*400mm  
600 pcs

### 8、 R—T TABLE



**R—T CONVERSION TABLE**

R<sub>25</sub>=10KΩ±1%      B<sub>25/50</sub>=3380K±1%

T/°C	Rmin	Rcen	Rmax	T/°C	Rmin	Rcen	Rmax
-40	189.4	197.1	205.1	-2	29.76	30.39	31.04
-39	180.0	187.2	194.7	-1	28.44	29.04	29.64
-38	171.1	177.9	184.9	0	27.19	27.75	28.32
-37	162.6	169.0	175.6	1	26.03	26.55	27.08
-36	154.6	160.6	166.7	2	24.93	25.41	25.91
-35	147.0	152.6	158.4	3	23.87	24.33	24.79
-34	139.8	145.0	150.4	4	22.87	23.30	23.73
-33	132.9	137.8	142.9	5	21.92	22.32	22.73
-32	126.4	131.0	135.8	6	21.02	21.39	21.77
-31	120.2	124.6	129.0	7	20.15	20.50	20.86
-30	114.4	118.4	122.6	8	19.33	19.66	19.99
-29	108.8	112.6	116.5	9	18.54	18.85	19.16
-28	103.5	107.1	110.8	10	17.80	18.08	18.37
-27	98.54	101.9	105.3	11	17.08	17.35	17.62
-26	93.79	96.91	100.1	12	16.40	16.65	16.91
-25	89.27	92.20	95.21	13	15.76	15.99	16.23
-24	84.98	87.73	90.55	14	15.14	15.35	15.58
-23	80.91	83.49	86.13	15	14.55	14.75	14.95
-22	77.05	79.46	81.93	16	13.98	14.17	14.36
-21	73.38	75.64	77.95	17	13.44	13.62	13.80
-20	69.89	72.01	74.18	18	12.93	13.09	13.26
-19	66.51	68.49	70.52	19	12.43	12.59	12.74
-18	63.32	65.17	67.06	20	11.96	12.11	12.25
-17	60.29	62.02	63.79	21	11.51	11.65	11.78
-16	57.42	59.04	60.69	22	11.08	11.21	11.33
-15	54.70	56.21	57.76	23	10.67	10.79	10.90
-14	52.12	53.54	54.99	24	10.28	10.38	10.49
-13	49.68	51.00	52.36	25	9.900	10.00	10.10
-12	47.36	48.60	49.87	26	9.532	9.632	9.732
-11	45.16	46.32	47.51	27	9.180	9.279	9.379
-10	43.07	44.16	45.27	28	8.842	8.942	9.041
-9	41.09	42.11	43.15	29	8.519	8.618	8.717
-8	39.21	40.16	41.13	30	8.209	8.308	8.406
-7	37.43	38.32	39.22	31	7.913	8.010	8.108
-6	35.73	36.57	37.41	32	7.628	7.725	7.823
-5	34.12	34.90	35.69	33	7.356	7.452	7.548
-4	32.59	33.32	34.06	34	7.094	7.189	7.285
-3	31.14	31.82	32.51	35	6.843	6.938	7.033
36	6.603	6.696	6.790	79	1.679	1.726	1.774

37	6.372	6.464	6.558	80	1.631	1.677	1.724
38	6.150	6.242	6.334	81	1.583	1.629	1.675
39	5.938	6.028	6.119	82	1.538	1.582	1.628
40	5.733	5.823	5.913	83	1.493	1.537	1.582
41	5.537	5.625	5.714	84	1.451	1.493	1.537
42	5.349	5.436	5.524	85	1.409	1.451	1.494
43	5.168	5.254	5.341	86	1.366	1.408	1.450
44	4.994	5.079	5.164	87	1.325	1.366	1.407
45	4.827	4.910	4.995	88	1.285	1.325	1.365
46	4.666	4.748	4.832	89	1.247	1.286	1.325
47	4.512	4.593	4.675	90	1.210	1.248	1.287
48	4.363	4.443	4.524	91	1.174	1.211	1.249
49	4.220	4.299	4.379	92	1.139	1.176	1.213
50	4.082	4.160	4.239	93	1.106	1.141	1.178
51	3.955	4.031	4.109	94	1.073	1.108	1.144
52	3.832	3.907	3.983	95	1.042	1.076	1.111
53	3.713	3.787	3.862	96	1.012	1.045	1.080
54	3.598	3.671	3.745	97	0.9824	1.015	1.049
55	3.486	3.558	3.631	98	0.9540	0.9862	1.019
56	3.379	3.449	3.521	99	0.9266	0.9582	0.9907
57	3.275	3.344	3.415	100	0.9001	0.9310	0.9629
58	3.174	3.243	3.312	101	0.8753	0.9056	0.9369
59	3.077	3.144	3.213	102	0.8513	0.8810	0.9117
60	2.983	3.049	3.116	103	0.8281	0.8573	0.8874
61	2.892	2.957	3.023	104	0.8057	0.8343	0.8638
62	2.804	2.868	2.933	105	0.7839	0.8120	0.8410
63	2.719	2.782	2.846	106	0.7629	0.7904	0.8189
64	2.637	2.699	2.762	107	0.7426	0.7696	0.7975
65	2.557	2.618	2.680	108	0.7229	0.7494	0.7767
66	2.480	2.540	2.601	109	0.7038	0.7298	0.7567
67	2.406	2.464	2.524	110	0.6854	0.7109	0.7372
68	2.334	2.391	2.450	111	0.6675	0.6925	0.7183
69	2.264	2.321	2.378	112	0.6502	0.6747	0.7001
70	2.197	2.252	2.309	113	0.6334	0.6575	0.6823
71	2.131	2.186	2.242	114	0.6171	0.6407	0.6652
72	2.068	2.122	2.176	115	0.6014	0.6245	0.6485
73	2.007	2.060	2.113	116	0.5861	0.6088	0.6324
74	1.948	2.000	2.052	117	0.5713	0.5936	0.6167
75	1.891	1.941	1.993	118	0.5569	0.5788	0.6015
76	1.835	1.885	1.936	119	0.5430	0.5645	0.5868
77	1.782	1.830	1.880	120	0.5295	0.5506	0.5725
78	1.730	1.777	1.827				