



Specification For Approval

Customer name : _____

Product name : NTC Thermistor (H702S Series)

Customer PN : _____

MFG PN : NSAB1104FC1-801M

MFG			Customer Confirmation		
Make	Check	Approval	Test	Check	Approval

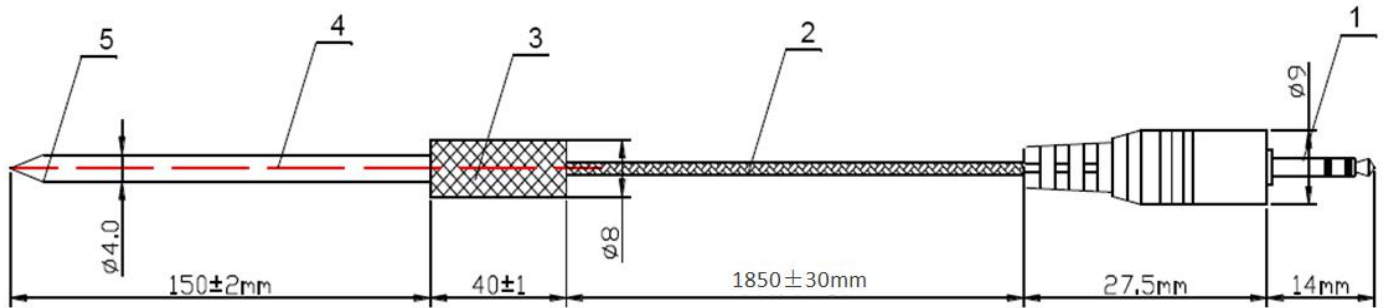
(Company name)

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

Version	Revise content	Forwarder	Date
A/1	Just made	Terry	2017-07-16

1、 Overall Dimension

(Unit: mm)



2、 Material Explanation

NO	COMPONENT	MATERIAL AND SPECIFICATIONS	Q'TY	REMARK
2-1	ELEMENT	R25:100KΩ ±1% R25/50:3950K ±1%	1 pcs	
2-2	PROBE	Φ4*190 Stainless steel Probe	1 pcs	
2-3	HANDLE	Φ8×40 Aluminum handle	1pcs	
2-4	LEAD WIRE	Braided AWG#26*2P 380℃	800mm	
2-5	TERMINAL	Φ3.5 Stereo Jack	1pcs	Black

3、 Part Number :

$$\frac{\text{NSA}}{1} - \frac{\times \times}{2} \frac{\times \times \times}{3} \frac{\times}{4} \frac{\times}{5} \frac{\times \times \times \times}{6} \frac{\times}{7} \quad 8$$

(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 Resistance at 25℃ (previous two digits are significant figures, The last digit specifies the number of zeros to follow.);

(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) ;

(8) Special code ;

4、Electrical Performance:

NO	Item	Sign	Test Conditions	Min.	Normal value	Max.	Unit
4-1.	Resistance at 25°C	R25	Ta=25±0.1°C P _T ≤0.1mw	99	100	101	kΩ
4-2.	B Value	B25/50	$B=LN \frac{R_{T1}}{R_{T2}} / \left(\frac{1}{T1} - \frac{1}{T2} \right)$	3910.5	3950	3989.5	k
4-3.	Dissipation Coefficient	σ	In the air	2.5		/	mw/°C
4-4.	Time constant	τ	In the air	/	/	8	sec
4-5.	Insulation resistance	/	500VDC	100	/	/	MΩ
4-6.	Withstand voltage	/	1500V AC	5	/	/	Sec
4-7.	Operating temp.range	/	/	-40	/	+350	°C

5、Reliability Test

NO	Item	Technical requirements	Test conditions and method
5-1.	High temp. Test	ΔR/R25≤±3%	350±5°C, 1000±24 hrs
5-2.	Low temp. tes		-40±5°C, 1000±24 hrs
5-3.	Endure moisture test	ΔB/B≤±3%	Store in environment 65±2°C,90%-95%RH for 1000±24 hrs
5-4.	Temp. cycle test	No change with withstand voltage、Insulation performance。Appearance without damage.	
5-5	Tensile tests	After tensile test, the sensor should be no damage and no falling.zero power resistance change rate should be less than ±1% in 25°C	Clamp wire at 50mm away from the inner edge of the connector terminal, then put 10N static tension between terminal and wire for 1min, along axial direction.after the test, check if there is any borken wire, falling off or damage and measure zero-power re.
5-6	Drop test	No technical damage. zero power resistance change rate should be less than ±1% in 25°C	Drop the sensor from a meter high through axial and lateral direction to cement floor, each direction for 5 times.then check the appearance and measure zero-power resistance in 25°C
5-7	Vibration test		Frequency range: 10-500HZ, accelerated speed:10g, frequency sweep time: both X and Y for 30 min。recover for 4 hours after test, visual inspect the appearance of the sensor and measure zero- power resistance in 25°C

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、R—T TABLE



R—T CONVERSION TABLE

R25=100KΩ±1%

B25/50=3950K±1%

T/°C	Rmin	Rcen	Rmax	T/°C	Rmin	Rcen	Rmax
-40	3588.6887	3429.7449	3277.5127	-2	370.8519	362.4818	354.2653
-39	3352.6428	3206.3125	3066.0625	-1	352.0045	344.2375	336.6083
-38	3133.7393	2998.9675	2869.7051	0	334.2264	327.0195	319.9360
-37	2930.6201	2806.4453	2687.2632	1	317.4508	310.7640	304.1877
-36	2742.0464	2627.5916	2517.6624	2	301.6157	295.4121	289.3072
-35	2566.8816	2461.3464	2359.9143	3	286.6631	280.9084	275.2418
-34	2404.0859	2306.7400	2213.1143	4	272.5389	267.2014	261.9423
-33	2252.7078	2162.8838	2076.4336	5	259.1926	254.2428	249.3626
-32	2111.8728	2028.9607	1949.1089	6	246.5770	241.9877	237.4601
-31	1980.7794	1904.2219	1830.4404	7	234.6482	230.3940	226.1943
-30	1858.6927	1787.9797	1719.7849	8	223.3650	219.4224	215.5278
-29	1744.9370	1679.6017	1616.5510	9	212.6890	209.0361	205.4255
-28	1638.8912	1578.5061	1520.1940	10	202.5840	199.2007	195.8544
-27	1539.9847	1484.1584	1430.2129	11	193.0167	189.8841	186.7836
-26	1447.6929	1396.0662	1346.1459	12	183.9552	181.0559	178.1844
-25	1361.5315	1313.7754	1267.5675	13	175.3704	172.6881	170.0298
-24	1281.0560	1236.8685	1194.0856	14	167.2345	164.7540	162.2942
-23	1205.8561	1164.9598	1125.3381	15	159.5216	157.2290	154.9539
-22	1135.5532	1097.6941	1060.9911	16	152.2075	150.0898	147.9867
-21	1069.7992	1034.7432	1000.7358	17	145.2694	143.3144	141.3716
-20	1008.2715	975.8038	944.2871	18	138.6861	136.8825	135.0889
-19	950.6732	920.5962	891.3817	19	132.4375	130.7749	129.1202
-18	896.7294	868.8615	841.7754	20	126.5049	124.9734	123.4482
-17	846.1864	820.3603	795.2428	21	120.8705	119.4612	118.0564
-16	798.8093	774.8710	751.5750	22	115.5180	114.2223	112.9298
-15	754.3810	732.1889	710.5786	23	110.4316	109.2417	108.0537
-14	712.7005	692.1238	672.0741	24	105.5969	104.5053	103.4147
-13	673.5814	654.4999	635.8954	25	101.0000	100.0000	99.0000
-12	636.8513	619.1540	601.8883	26	96.7127	95.7132	94.7146
-11	602.3502	585.9346	569.9095	27	92.6306	91.6333	90.6378
-10	569.9298	554.7016	539.8262	28	88.7426	87.7492	86.7583
-9	539.4526	525.3245	511.5153	29	85.0386	84.0505	83.0655
-8	510.7906	497.6821	484.8615	30	81.5090	80.5274	79.5497
-7	483.8254	471.6621	459.7586	31	78.1446	77.1707	76.2012
-6	458.4467	447.1599	436.1073	32	74.9370	73.9717	73.0115
-5	434.5519	424.0781	413.8153	33	71.8779	70.9222	69.9721
-4	412.0460	402.3264	392.7968	34	68.9598	68.0144	67.0752
-3	390.8401	381.8204	372.9716	35	66.1755	65.2411	64.3134



R—T CONVERSION TABLE

R25=100KΩ±1%

B25/50=3950K±1%

T/°C	Rmin	Rcen	Rmax	T/°C	Rmin	Rcen	Rmax
36	63.5182	62.5954	61.6798	74	15.5702	15.1276	14.6961
37	60.9814	60.0707	59.1677	75	15.0581	14.6251	14.2032
38	58.5591	57.6610	56.7710	76	14.5652	14.1417	13.7291
39	56.2456	55.3604	54.4837	77	14.0907	13.6764	13.2729
40	54.0355	53.1635	52.3004	78	13.6339	13.2286	12.8341
41	51.9235	51.0651	50.2158	79	13.1940	12.7976	12.4118
42	49.9049	49.0602	48.2250	80	12.7703	12.3825	12.0053
43	47.9752	47.1443	46.3232	81	12.3622	11.9828	11.6139
44	46.1298	45.3130	44.5062	82	11.9689	11.5978	11.2372
45	44.3649	43.5621	42.7696	83	11.5900	11.2270	10.8743
46	42.6764	41.8878	41.1096	84	11.2247	10.8697	10.5248
47	41.0607	40.2862	39.5224	85	10.8727	10.5254	10.1881
48	39.5143	38.7539	38.0044	86	10.5332	10.1935	9.8637
49	38.0339	37.2876	36.5524	87	10.2059	9.8736	9.5511
50	36.6163	35.8842	35.1631	88	9.8902	9.5652	9.2499
51	35.2587	34.5405	33.8335	89	9.5858	9.2678	8.9594
52	33.9582	33.2538	32.5608	90	9.2920	8.9809	8.6794
53	32.7121	32.0214	31.3423	91	9.0085	8.7042	8.4094
54	31.5178	30.8408	30.1754	92	8.7350	8.4373	8.1489
55	30.3731	29.7096	29.0576	93	8.4710	8.1797	7.8977
56	29.2755	28.6253	27.9868	94	8.2161	7.9312	7.6554
57	28.2230	27.5860	26.9607	95	7.9700	7.6912	7.4215
58	27.2135	26.5895	25.9772	96	7.7324	7.4596	7.1958
59	26.2450	25.6338	25.0343	97	7.5029	7.2360	6.9780
60	25.3156	24.7171	24.1303	98	7.2812	7.0201	6.7677
61	24.4237	23.8376	23.2633	99	7.0670	6.8115	6.5647
62	23.5675	22.9937	22.4315	100	6.8601	6.6101	6.3686
63	22.7454	22.1836	21.6336	101	6.6601	6.4155	6.1793
64	21.9560	21.4061	20.8678	102	6.4668	6.2274	5.9964
65	21.1977	20.6594	20.1328	103	6.2799	6.0457	5.8197
66	20.4692	19.9424	19.4272	104	6.0993	5.8701	5.6489
67	19.7693	19.2537	18.7497	105	5.9246	5.7003	5.4839
68	19.0966	18.5920	18.0990	106	5.7557	5.5362	5.3245
69	18.4499	17.9562	17.4740	107	5.5923	5.3775	5.1703
70	17.8282	17.3452	16.8735	108	5.4343	5.2240	5.0213
71	17.2304	16.7578	16.2965	109	5.2814	5.0755	4.8772
72	16.6554	16.1930	15.7419	110	5.1334	4.9319	4.7379
73	16.1023	15.6499	15.2087	111	4.9903	4.7930	4.6031



R—T CONVERSION TABLE

R₂₅=100KΩ±1%		B_{25/50}=3950K±1%					
T/°C	R_{min}	R_{cen}	R_{max}	T/°C	R_{min}	R_{cen}	R_{max}
112	4.8517	4.6586	4.4727	150	1.8108	1.7215	1.6364
113	4.7175	4.5285	4.3466	151	1.7680	1.6804	1.5970
114	4.5877	4.4026	4.2245	152	1.7264	1.6405	1.5587
115	4.4619	4.2807	4.1064	153	1.6860	1.6017	1.5215
116	4.3401	4.1627	3.9921	154	1.6467	1.5640	1.4853
117	4.2222	4.0484	3.8815	155	1.6084	1.5273	1.4501
118	4.1079	3.9378	3.7743	156	1.5712	1.4915	1.4158
119	3.9972	3.8306	3.6706	157	1.5349	1.4568	1.3825
120	3.8900	3.7268	3.5702	158	1.4997	1.4230	1.3501
121	3.7861	3.6263	3.4729	159	1.4654	1.3901	1.3186
122	3.6854	3.5289	3.3787	160	1.4320	1.3582	1.2880
123	3.5877	3.4345	3.2874	161	1.3995	1.3270	1.2582
124	3.4931	3.3430	3.1990	162	1.3678	1.2967	1.2292
125	3.4014	3.2543	3.1133	163	1.3370	1.2672	1.2009
126	3.3124	3.1683	3.0302	164	1.3070	1.2385	1.1734
127	3.2261	3.0850	2.9497	165	1.2778	1.2106	1.1467
128	3.1424	3.0042	2.8717	166	1.2494	1.1833	1.1207
129	3.0613	2.9258	2.7960	167	1.2217	1.1568	1.0953
130	2.9825	2.8498	2.7227	168	1.1947	1.1310	1.0706
131	2.9061	2.7761	2.6515	169	1.1684	1.1059	1.0466
132	2.8320	2.7045	2.5826	170	1.1428	1.0814	1.0232
133	2.7601	2.6352	2.5157	171	1.1179	1.0576	1.0004
134	2.6902	2.5678	2.4507	172	1.0935	1.0343	0.9782
135	2.6225	2.5025	2.3878	173	1.0698	1.0117	0.9566
136	2.5567	2.4391	2.3267	174	1.0467	0.9896	0.9355
137	2.4928	2.3775	2.2674	175	1.0242	0.9681	0.9150
138	2.4308	2.3178	2.2098	176	1.0023	0.9472	0.8950
139	2.3705	2.2598	2.1540	177	0.9809	0.9268	0.8756
140	2.3120	2.2034	2.0997	178	0.9601	0.9069	0.8566
141	2.2552	2.1487	2.0471	179	0.9397	0.8875	0.8381
142	2.2000	2.0956	1.9960	180	0.9199	0.8686	0.8200
143	2.1463	2.0440	1.9463	181	0.9006	0.8501	0.8024
144	2.0942	1.9939	1.8981	182	0.8817	0.8321	0.7853
145	2.0436	1.9452	1.8513	183	0.8633	0.8146	0.7686
146	1.9943	1.8978	1.8058	184	0.8454	0.7975	0.7523
147	1.9465	1.8518	1.7616	185	0.8279	0.7808	0.7364
148	1.9000	1.8071	1.7187	186	0.8108	0.7646	0.7209
149	1.8547	1.7637	1.6770	187	0.7941	0.7487	0.7058



R—T CONVERSION TABLE

R₂₅=100KΩ±1%

B_{25/50}=3950K±1%

T/°C	Rmin	Rcen	Rmax	T/°C	Rmin	Rcen	Rmax
188	0.7779	0.7332	0.6911	226	0.3741	0.3500	0.3274
189	0.7620	0.7181	0.6767	227	0.3674	0.3437	0.3215
190	0.7465	0.7034	0.6627	228	0.3609	0.3376	0.3157
191	0.7314	0.6890	0.6490	229	0.3545	0.3315	0.3100
192	0.7166	0.6749	0.6356	230	0.3483	0.3257	0.3045
193	0.7022	0.6612	0.6226	231	0.3422	0.3199	0.2990
194	0.6882	0.6479	0.6099	232	0.3362	0.3142	0.2937
195	0.6744	0.6348	0.5975	233	0.3304	0.3087	0.2885
196	0.6610	0.6221	0.5853	234	0.3246	0.3033	0.2834
197	0.6479	0.6096	0.5735	235	0.3190	0.2980	0.2784
198	0.6351	0.5975	0.5620	236	0.3135	0.2928	0.2735
199	0.6227	0.5856	0.5507	237	0.3081	0.2878	0.2687
200	0.6105	0.5740	0.5397	238	0.3029	0.2828	0.2640
201	0.5985	0.5627	0.5290	239	0.2977	0.2779	0.2594
202	0.5869	0.5517	0.5185	240	0.2927	0.2732	0.2549
203	0.5755	0.5409	0.5082	241	0.2877	0.2685	0.2505
204	0.5644	0.5303	0.4982	242	0.2829	0.2639	0.2462
205	0.5536	0.5200	0.4884	243	0.2781	0.2594	0.2420
206	0.5430	0.5099	0.4789	244	0.2734	0.2550	0.2379
207	0.5326	0.5001	0.4696	245	0.2689	0.2507	0.2338
208	0.5225	0.4905	0.4604	246	0.2644	0.2465	0.2298
209	0.5126	0.4811	0.4515	247	0.2600	0.2424	0.2259
210	0.5029	0.4719	0.4428	248	0.2557	0.2384	0.2221
211	0.4934	0.4630	0.4343	249	0.2515	0.2344	0.2184
212	0.4842	0.4542	0.4260	250	0.2474	0.2305	0.2148
213	0.4751	0.4456	0.4179	251	0.2433	0.2267	0.2112
214	0.4663	0.4372	0.4100	252	0.2394	0.2230	0.2077
215	0.4576	0.4290	0.4022	253	0.2355	0.2193	0.2042
216	0.4492	0.4210	0.3946	254	0.2317	0.2157	0.2009
217	0.4409	0.4132	0.3872	255	0.2279	0.2122	0.1976
218	0.4328	0.4055	0.3800	256	0.2243	0.2088	0.1943
219	0.4249	0.3980	0.3729	257	0.2207	0.2054	0.1911
220	0.4171	0.3907	0.3660	258	0.2172	0.2021	0.1880
221	0.4096	0.3836	0.3592	259	0.2137	0.1988	0.1850
222	0.4021	0.3765	0.3525	260	0.2103	0.1957	0.1820
223	0.3949	0.3697	0.3461	261	0.2070	0.1925	0.1791
224	0.3878	0.3630	0.3397	262	0.2037	0.1895	0.1762
225	0.3809	0.3564	0.3335	263	0.2005	0.1865	0.1734

R—T CONVERSION TABLE

		R₂₅=100KΩ±1%		B_{25/50}=3950K±1%			
T/°C	R_{min}	R_{cen}	R_{max}	T/°C	R_{min}	R_{cen}	R_{max}
264	0.1974	0.1835	0.1706				
265	0.1943	0.1806	0.1679				
266	0.1913	0.1778	0.1652				
267	0.1884	0.1750	0.1626				
268	0.1855	0.1723	0.1601				
269	0.1826	0.1696	0.1575				
270	0.1798	0.1670	0.1551				
271	0.1771	0.1644	0.1527				
272	0.1744	0.1619	0.1503				
273	0.1717	0.1594	0.1480				
274	0.1691	0.1570	0.1457				
275	0.1666	0.1546	0.1435				
276	0.1641	0.1522	0.1413				
277	0.1616	0.1499	0.1391				
278	0.1592	0.1477	0.1370				
279	0.1568	0.1455	0.1349				
280	0.1545	0.1433	0.1329				
281	0.1522	0.1412	0.1309				
282	0.1500	0.1391	0.1289				
283	0.1478	0.1370	0.1270				
284	0.1456	0.1350	0.1251				
285	0.1435	0.1330	0.1232				
286	0.1414	0.1310	0.1214				
287	0.1394	0.1291	0.1196				
288	0.1374	0.1272	0.1179				
289	0.1354	0.1254	0.1161				
290	0.1335	0.1236	0.1144				
291	0.1316	0.1218	0.1128				
292	0.1297	0.1201	0.1111				
293	0.1279	0.1183	0.1095				
294	0.1260	0.1166	0.1079				
295	0.1243	0.1150	0.1064				
296	0.1225	0.1134	0.1049				
297	0.1208	0.1118	0.1034				
298	0.1191	0.1102	0.1019				
299	0.1175	0.1086	0.1005				
300	0.1158	0.1071	0.0990				