

DATA SHEET

NTC SENSOR

TEMPERATURE DETECT/CONTROL

NA series

RoHS compliant & Halogen free



Product specification – May 14, 2021 V.0



NTC Sensor Data Sheet – NA Series

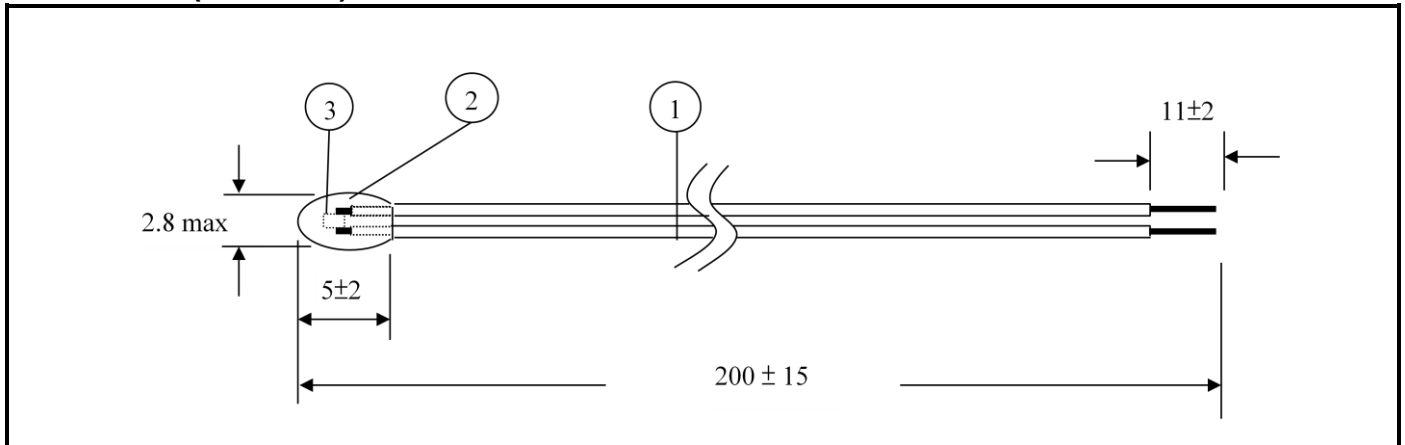
Part Number Code

NA	103	6	F	00	C	5	—	201	000
NTC Sensor series	R25 Zero power Resistance 10,000Ω	Beta Value code B(25-85)=3978	Tol% of R25 and Beta ±1%	Cap Code Epoxy Resin	Wire type Code C wire	<Ver.5> RoHs & Special Demand		Wire Length Code 200mm	Internal Code
Remark	<Electrical Characteristics>			<Dimension>				<Dimension>	<Remark>

Electrical Characteristics

Part Number	Zero Power Resistance at 25°C	Beta Value (25~85°C)	Thermal Time Constant	Thermal Dissipation Constant	Hi-Pot Test 1.5KVac 5sec	Certification	Operating Temperature Range
	R25(Ω)	(K)	τ (sec)	δ (mW/°C)	(mA)	Item	T _L ~T _U (°C)
NA1036F00C5-201000	10,000 ±1%	3978 ±1%	Approx. 10	Approx. 1	Max. 10mA	RoHS	-40~+125

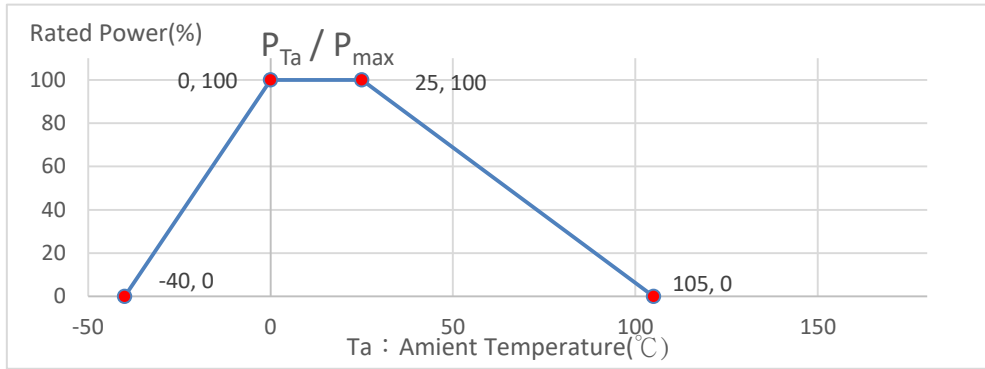
Dimensions (Unit: mm)



NO.	component	Material and Specifications	Q'ty	Remarks
1	Lead Wire	30AWG Single Teflon Wire	1	White
2	Coating	Epoxy Resin	--	Black
3	Element	NTC CHIP	1	NAZ3978AF103FM
4	Cap	-- / --	--	--
5	Terminal / Housing	-- / --	-/-	-- / --
6	Heat Shrink Tubing	--	--	--

Drawing No.		Designed		Customer	
Date	2021/05/14	Checked by		Rev.	1
Remark	8.Connector	4.Heat Shrink Tubing	2.other	1.Bare wire	
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Max Power Rating:75mW



Storage Conditions

- Storage Temperature: -10°C~+40°C
- Relative Humidity: ≤80%RH
- Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.

Packaging

- Bulk Packing: 100pcs/Bag

RESISTANCE - TEMPERATURE CHARACTERISTICS (TYPICAL)

PART NO: NA1036F00C5-201000			
$R_t = \text{EXP} (A_0 + A_1/T + A_2/T^2 + A_3/T^3)$			
$T = t (^{\circ}\text{C}) + 273.15$			
A0=	-5.463953E+00	A1=	4.852117E+03
A2=	-1.422261E+05	A3=	4.652286E+03

Temperature t (°C)	Rmin. (Ω)	Rnor. Rt(Ω)	Rmax. (Ω)	ΔRt / Rt %
-40	322026.094	338109.980	354193.866	4.76%
-39	301515.491	316330.513	331145.536	4.68%
-38	282442.549	296093.736	309744.923	4.61%
-37	264697.903	277281.123	289864.343	4.54%
-36	248181.123	259783.927	271386.732	4.47%
-35	232799.939	243502.322	254204.705	4.40%
-34	218469.535	228344.619	238219.703	4.32%
-33	205111.905	214226.563	223341.220	4.25%
-32	192655.271	201070.687	209486.102	4.19%
-31	181033.550	188805.731	196577.912	4.12%
-30	170185.877	177366.112	184546.346	4.05%
-29	160056.160	166691.438	173326.716	3.98%
-28	150592.683	156726.074	162859.465	3.91%
-27	141747.742	147418.739	153089.735	3.85%
-26	133477.310	138722.142	143966.974	3.78%
-25	125740.738	130592.655	135444.571	3.72%
-24	118500.474	122990.002	127479.530	3.65%
-23	111721.814	115876.993	120032.171	3.59%
-22	105372.671	109219.264	113065.856	3.52%
-21	99423.361	102985.051	106546.740	3.46%
-20	93846.414	97144.980	100443.545	3.40%
-19	88616.396	91671.873	94727.350	3.33%
-18	83709.747	86540.574	89371.402	3.27%
-17	79104.634	81727.788	84350.941	3.21%
-16	74780.817	77211.930	79643.044	3.15%
-15	70719.521	72972.999	75226.477	3.09%
-14	66903.326	68992.444	71081.563	3.03%
-13	63316.059	65253.059	67190.059	2.97%
-12	59942.703	61738.873	63535.044	2.91%
-11	56769.303	58435.060	60100.818	2.85%
-10	53782.890	55327.848	56872.807	2.79%
-9	50971.404	52404.439	53837.474	2.73%
-8	48323.626	49652.936	50982.245	2.68%
-7	45829.117	47062.274	48295.432	2.62%
-6	43478.156	44622.161	45766.165	2.56%

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Temperature t (°C)	Rmin. (Ω)	Rnor. Rt(Ω)	Rmax. (Ω)	ΔRt / Rt %
-5	41261.692	42323.014	43384.335	2.51%
-4	39171.289	40155.912	41140.535	2.45%
-3	37199.086	38112.545	39026.004	2.40%
-2	35337.752	36185.169	37032.586	2.34%
-1	33580.449	34366.565	35152.680	2.29%
0	31920.797	32650.000	33379.203	2.23%
1	30352.838	31029.193	31705.549	2.18%
2	28871.009	29498.283	30125.556	2.13%
3	27470.114	28051.795	28633.476	2.07%
4	26145.296	26684.619	27223.941	2.02%
5	24892.015	25391.977	25891.940	1.97%
6	23706.022	24169.406	24632.789	1.92%
7	22583.347	23012.731	23442.115	1.87%
8	21520.270	21918.048	22315.826	1.81%
9	20513.310	20881.704	21250.097	1.76%
10	19559.208	19900.278	20241.349	1.71%
11	18654.907	18970.570	19286.233	1.66%
12	17797.546	18089.580	18381.613	1.61%
13	16984.441	17254.497	17524.553	1.57%
14	16213.075	16462.688	16712.300	1.52%
15	15481.085	15711.682	15942.278	1.47%
16	14786.257	14999.163	15212.069	1.42%
17	14126.509	14322.957	14519.405	1.37%
18	13499.888	13681.024	13862.161	1.32%
19	12904.558	13071.449	13238.341	1.28%
20	12338.795	12492.433	12646.071	1.23%
21	11800.977	11942.285	12083.592	1.18%
22	11289.581	11419.417	11549.253	1.14%
23	10803.172	10922.336	11041.499	1.09%
24	10340.402	10449.637	10558.873	1.05%
25	9900.000	10000.000	10100.000	1.00%
26	9472.147	9572.181	9672.215	1.05%
27	9065.131	9165.011	9264.891	1.09%
28	8677.830	8777.388	8876.945	1.13%
29	8309.190	8408.273	8507.357	1.18%
30	7958.217	8056.691	8155.165	1.22%
31	7623.974	7721.719	7819.464	1.27%
32	7305.580	7402.489	7499.397	1.31%
33	7002.204	7098.182	7194.159	1.35%
34	6713.062	6808.025	6902.989	1.39%
35	6437.416	6531.291	6625.167	1.44%

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Temperature	Rmin.	Rnor.	Rmax.	$ \Delta R_t / R_t $
t (°C)	(Ω)	Rt(Ω)	(Ω)	%
36	6174.567	6267.291	6360.015	1.48%
37	5923.857	6015.375	6106.894	1.52%
38	5684.667	5774.932	5865.196	1.56%
39	5456.410	5545.380	5634.351	1.60%
40	5238.531	5326.174	5413.817	1.65%
41	5030.509	5116.796	5203.083	1.69%
42	4831.847	4916.757	5001.666	1.73%
43	4642.081	4725.594	4809.108	1.77%
44	4460.766	4542.871	4624.976	1.81%
45	4287.487	4368.174	4448.860	1.85%
46	4121.847	4201.110	4280.374	1.89%
47	3963.473	4041.310	4119.148	1.93%
48	3812.011	3888.423	3964.835	1.97%
49	3667.125	3742.116	3817.106	2.00%
50	3528.499	3602.073	3675.648	2.04%
51	3395.832	3467.998	3540.164	2.08%
52	3268.839	3339.606	3410.374	2.12%
53	3147.250	3216.630	3286.011	2.16%
54	3030.810	3098.816	3166.822	2.19%
55	2919.276	2985.922	3052.568	2.23%
56	2812.418	2877.719	2943.020	2.27%
57	2710.017	2773.991	2837.964	2.31%
58	2611.868	2674.530	2737.192	2.34%
59	2517.772	2579.142	2640.511	2.38%
60	2427.545	2487.640	2547.736	2.42%
61	2341.007	2399.848	2458.689	2.45%
62	2257.992	2315.598	2373.204	2.49%
63	2178.340	2234.731	2291.122	2.52%
64	2101.898	2157.095	2212.292	2.56%
65	2028.523	2082.546	2136.569	2.59%
66	1958.076	2010.946	2063.817	2.63%
67	1890.428	1942.166	1993.905	2.66%
68	1825.454	1876.082	1926.710	2.70%
69	1763.037	1812.575	1862.113	2.73%
70	1703.064	1751.533	1800.002	2.77%
71	1645.428	1692.849	1740.270	2.80%
72	1590.028	1636.421	1682.815	2.84%
73	1536.766	1582.153	1627.540	2.87%
74	1485.550	1529.951	1574.352	2.90%
75	1436.292	1479.728	1523.164	2.94%
76	1388.909	1431.399	1473.890	2.97%

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Temperature t (°C)	Rmin. (Ω)	Rnor. Rt(Ω)	Rmax. (Ω)	ΔRt / Rt %
77	1343.321	1384.886	1426.450	3.00%
78	1299.451	1340.110	1380.769	3.03%
79	1257.228	1297.000	1336.772	3.07%
80	1216.582	1255.486	1294.391	3.10%
81	1177.446	1215.502	1253.559	3.13%
82	1139.759	1176.985	1214.211	3.16%
83	1103.460	1139.874	1176.289	3.19%
84	1068.491	1104.112	1139.733	3.23%
85	1034.799	1069.644	1104.488	3.26%
86	1002.330	1036.416	1070.503	3.29%
87	971.036	1004.380	1037.725	3.32%
88	940.867	973.487	1006.107	3.35%
89	911.780	943.691	975.602	3.38%
90	883.730	914.949	946.168	3.41%
91	856.676	887.218	917.760	3.44%
92	830.578	860.459	890.340	3.47%
93	805.399	834.634	863.869	3.50%
94	781.101	809.705	838.309	3.53%
95	757.651	785.638	813.625	3.56%
96	735.014	762.399	789.783	3.59%
97	713.160	739.956	766.752	3.62%
98	692.057	718.279	744.500	3.65%
99	671.678	697.337	722.997	3.68%
100	651.993	677.104	702.215	3.71%
101	632.976	657.551	682.126	3.74%
102	614.603	638.654	662.706	3.77%
103	596.847	620.387	643.927	3.79%
104	579.686	602.727	625.768	3.82%
105	563.097	585.651	608.204	3.85%
106	547.060	569.136	591.213	3.88%
107	531.552	553.164	574.775	3.91%
108	516.555	537.712	558.869	3.93%
109	502.050	522.763	543.475	3.96%
110	488.018	508.297	528.576	3.99%
111	474.442	494.297	514.153	4.02%
112	461.305	480.746	500.188	4.04%
113	448.591	467.628	486.666	4.07%
114	436.285	454.928	473.570	4.10%
115	424.372	442.629	460.886	4.12%
116	412.838	430.718	448.599	4.15%
117	401.669	419.181	436.694	4.18%

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Temperature t (°C)	Rmin. (Ω)	Rnor. Rt(Ω)	Rmax. (Ω)	ΔRt / Rt %
118	390.852	408.005	425.158	4.20%
119	380.375	397.177	413.978	4.23%
120	370.225	386.684	403.143	4.26%
121	360.392	376.515	392.638	4.28%
122	350.863	366.659	382.455	4.31%
123	341.628	357.104	372.580	4.33%
124	332.678	347.841	363.004	4.36%
125	324.001	338.859	353.717	4.38%