







## **Install and use**

1. Use this product within the specified temperature range.
2. Higher temperature may cause deterioration of the characteristics or the material quality of this product.
3. Do not melt the solder in resin head, when you solder this product. If you melt the solder in resin head, it has possibility that the break of wire, short and insulation damage.
4. Do not touch the resin head directly by solder iron. It may cause the melt of solder in resin head.
5. At least away from resin head 10mm above when lead dividing.
6. In case you cut the lead wire of this product less than 10mm from resin head, the heat of melted solder at lead wire edge is propagated easily to the resin head along the lead wire.
7. Radius of lead bending should be more than 1mm when lead bending.  
Holding element by side lead wire is recommended when lead wire is bent or cut.
8. Do not apply an excessive force to the lead. Otherwise, it may cause junction between lead and element to break or crack.
9. The ceramic element of this product is fragile, and care must be taken not to load an excessive press-force or not to give a shock at handling. Such forces may cause cracking or chipping.
10. If you mold by resin this product, please evaluate the quality of this product before you use it.

## **Warehouse Storage Conditions of Products**

To keep solderability of product from declining, the following storage condition is recommended.

### 1. Storage condition:

Temperature -10°C to +40°C

Humidity less than 75%RH (not dewing condition)

### 2. Storage term:

Use this product within 1 year after delivery by first-in and first-out stocking system.

### 3. Handling after unpacking:

After unpacking, reseal product promptly or store it in a sealed container with a drying agent.

### 4. Storage place:

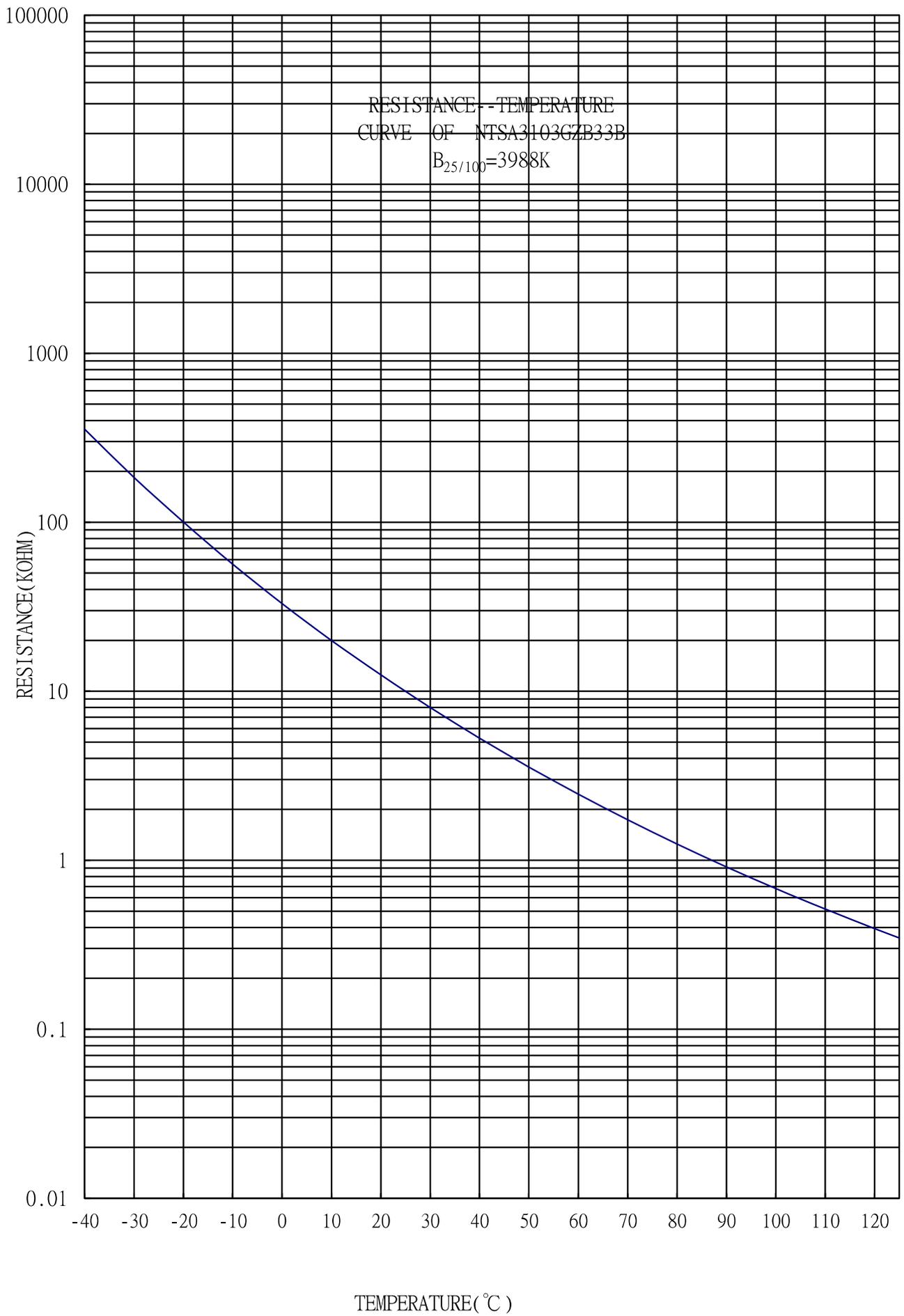
Do not store this product in corrosive gas (Sulfuric acid gas, Chlorine gas, etc.) or in direct sunlight.

## **Warn and note item**

This product is designed for application in an ordinary environment (normal room temperature, humidity and atmospheric pressure).

Do not use under the following conditions because all of these factors can deteriorate the product characteristics or cause failures and burn-out.

1. Corrosive gas or deoxidizing gas (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
2. Volatile or flammable gas
3. Dusty conditions
4. Under vacuum, or under high or low pressure
5. Wet or humid locations; soak in the liquid or wash with liquid
6. Places with salt water, oils, chemical liquids or organic solvents and do not use directly with quick-drying glue.
7. Strong vibrations
8. Other places where similar hazardous conditions exist
9. Be sure to provide an appropriate fail-safe function on your product to prevent secondary damages that may be caused by the abnormal function or the failure of our product.





## R - T Table

Part No. : NTSA3103GZB33B

R25=10K $\Omega$ ±2%

B25/100 = 3988 K ± 1%

Temperature (°C)	Rmax. (K $\Omega$ )	Rnor. (K $\Omega$ )	Rmin. (K $\Omega$ )	Temperature Tol. (°C)	
-40	341.659	323.515	306.211	-0.87	0.87
-39	320.348	303.529	287.478	-0.84	0.85
-38	300.237	284.657	269.776	-0.83	0.84
-37	281.382	266.951	253.159	-0.82	0.83
-36	263.772	250.405	237.620	-0.81	0.83
-35	247.363	234.976	223.121	-0.80	0.82
-34	232.085	220.603	209.605	-0.80	0.82
-33	217.864	207.215	197.007	-0.80	0.82
-32	204.620	194.739	185.261	-0.79	0.81
-31	192.277	183.105	174.301	-0.79	0.81
-30	180.765	172.247	164.065	-0.78	0.81
-29	170.017	162.104	154.497	-0.78	0.80
-28	159.973	152.620	145.546	-0.78	0.80
-27	150.580	143.745	137.165	-0.77	0.79
-26	141.789	135.433	129.311	-0.76	0.79
-25	133.556	127.645	121.947	-0.76	0.78
-24	125.841	120.342	115.038	-0.75	0.77
-23	118.609	113.492	108.553	-0.75	0.77
-22	111.826	107.065	102.465	-0.74	0.76
-21	105.463	101.031	96.7465	-0.73	0.76
-20	99.4916	95.3657	91.3744	-0.73	0.75
-19	93.8874	90.0456	86.3264	-0.72	0.74
-18	88.6265	85.0485	81.5823	-0.72	0.74
-17	83.6871	80.3541	77.1231	-0.71	0.73
-16	79.0488	75.9434	72.9309	-0.70	0.73
-15	74.6925	71.7985	68.9891	-0.70	0.72
-14	70.6003	67.9028	65.2822	-0.69	0.72
-13	66.7556	64.2406	61.7956	-0.69	0.71
-12	63.1427	60.7973	58.5156	-0.68	0.70
-11	59.7468	57.5590	55.4291	-0.68	0.70
-10	56.5541	54.5129	52.5243	-0.67	0.69
-9	53.5517	51.6467	49.7895	-0.66	0.69
-8	50.7274	48.9491	47.2143	-0.66	0.68
-7	48.0698	46.4094	44.7885	-0.65	0.68
-6	45.5683	44.0176	42.5027	-0.65	0.67
-5	43.2129	41.7643	40.3481	-0.64	0.67
-4	40.9943	39.6407	38.3166	-0.64	0.66
-3	38.9037	37.6387	36.4002	-0.63	0.66
-2	36.9330	35.7505	34.5920	-0.63	0.65
-1	35.0746	33.9690	32.8850	-0.62	0.64
0	33.3214	32.2874	31.2730	-0.61	0.64
1	31.6668	30.6996	29.7500	-0.61	0.63
2	30.1045	29.1997	28.3107	-0.60	0.63
3	28.6289	27.7822	26.9498	-0.60	0.62

4	27.2345	26.4421	25.6625	-0.59	0.62
5	25.9164	25.1747	24.4445	-0.59	0.61
6	24.6699	23.9756	23.2915	-0.58	0.60
7	23.4905	22.8405	22.1996	-0.57	0.60
8	22.3744	21.7657	21.1652	-0.57	0.59
9	21.3177	20.7477	20.1849	-0.56	0.58
10	20.3168	19.7830	19.2555	-0.55	0.58
11	19.3684	18.8685	18.3741	-0.55	0.57
12	18.4696	18.0013	17.5379	-0.54	0.56
13	17.6174	17.1787	16.7443	-0.53	0.56
14	16.8090	16.3982	15.9909	-0.53	0.55
15	16.0422	15.6572	15.2755	-0.52	0.54
16	15.3143	14.9537	14.5958	-0.51	0.54
17	14.6233	14.2856	13.9500	-0.51	0.53
18	13.9672	13.6507	13.3362	-0.50	0.52
19	13.3438	13.0474	12.7525	-0.49	0.51
20	12.7516	12.4739	12.1975	-0.48	0.51
21	12.1887	11.9286	11.6695	-0.48	0.50
22	11.6535	11.4100	11.1670	-0.47	0.49
23	11.1446	10.9165	10.6888	-0.46	0.48
24	10.6605	10.4469	10.2335	-0.45	0.48
25	10.2000	10.0000	9.80000	-0.45	0.47
26	9.77021	9.57447	9.37890	-0.46	0.48
27	9.36074	9.16924	8.97807	-0.47	0.50
28	8.97055	8.78325	8.59643	-0.49	0.51
29	8.59864	8.41550	8.23298	-0.50	0.52
30	8.24406	8.06505	7.88677	-0.51	0.53
31	7.90595	7.73101	7.55692	-0.52	0.55
32	7.58346	7.41254	7.24257	-0.54	0.56
33	7.27580	7.10884	6.94293	-0.55	0.57
34	6.98223	6.81917	6.65725	-0.56	0.59
35	6.70204	6.54281	6.38481	-0.58	0.60
36	6.43455	6.27910	6.12495	-0.59	0.61
37	6.17915	6.02740	5.87702	-0.60	0.63
38	5.93523	5.78711	5.64043	-0.62	0.64
39	5.70222	5.55767	5.41461	-0.63	0.65
40	5.47958	5.33853	5.19902	-0.64	0.67
41	5.26681	5.12918	4.99315	-0.66	0.68
42	5.06343	4.92915	4.79652	-0.67	0.69
43	4.86897	4.73798	4.60867	-0.69	0.71
44	4.68301	4.55523	4.42916	-0.70	0.72
45	4.50514	4.38049	4.25760	-0.71	0.74
46	4.33496	4.21338	4.09358	-0.73	0.75
47	4.17210	4.05353	3.93675	-0.74	0.76
48	4.01623	3.90058	3.78675	-0.76	0.78
49	3.86699	3.75421	3.64325	-0.77	0.79
50	3.72409	3.61409	3.50595	-0.79	0.81
51	3.58721	3.47995	3.37454	-0.80	0.82
52	3.45608	3.35148	3.24874	-0.81	0.83
53	3.33043	3.22842	3.12828	-0.83	0.85
54	3.21000	3.11052	3.01292	-0.84	0.86
55	3.09454	2.99753	2.90240	-0.86	0.88
56	2.98384	2.88924	2.79651	-0.87	0.89