

# 深圳市深新晖电子有限公司

SHEN ZHEN SHENXINHUI ELECTRONICS CO., LTD.

## NTC-103F343FFB

### 规 格 书

制造商：深圳市深新晖电子有限公司

地 址：深圳市宝安区沙井镇沙井路一号一栋三楼 B

电 话：0755- 29790139 / 29790125 / 29790058

手 机：13823734931

传 真：0755-29790109

E-mail: sxh@szshui.com

网 址：www.szshui.com

网络实名：深新晖电子

客户名称				
名称	热敏电阻	 SHENZHEN SHENXINHUI ELECTRONICS CO., LTD. 深圳市深新晖电子有限公司	发行日期	2011.11.08
型号	NTC-103F343FFB		版本 1	2011.12.12
			版本 2	

■ Feature

1. Low cost, high stability, excellent endurance against thermal shock
2. Temperature sensing and control, compensation, measurement
3. Dimension can be discussed

■ Applications

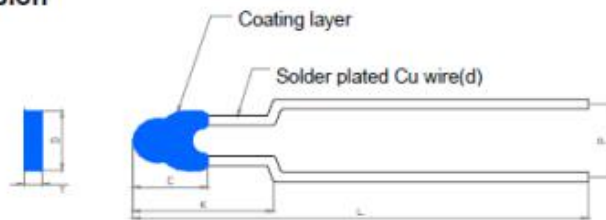
- On-board temperature sensor, Air conditioner, Refrigerator, Heater

■ Part Number

NTC
103
F
343
F
FB  
(1)
(2)
(3)
(4)
(5)
(6)

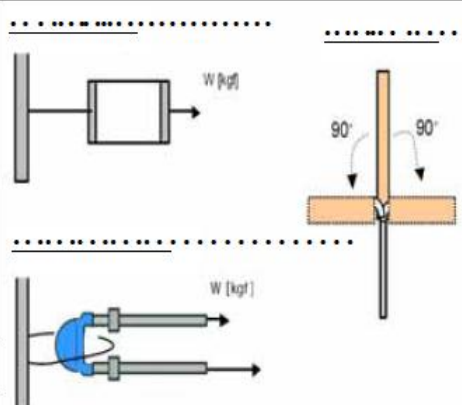
(1) Wire type	
(2) Resistance value	103 = 10 kohm [ $10 \times 10^3$ ohm] @ 25° ± 0.2°
(3) Resistance tolerance	F : ±1% of Nominal Resistance
(4) B(25/85) value	3435K
(5) B value tolerance	F : ±1% of Nominal B value
(6) Series no.	
Special parts	Powder coating [Blue], ROHS compliant [Pb-free]

■ Shape & Dimension



Type	C	D	K	L	P	T	d	unit : mm	remark
	4.0max	4.0max	6.5 max	32	3.0	3.0max	0.45		

■ Performance Specification

No	ITEM	Requirements	Test condition								
1	Operating Temp. Range	-40• ~ +125• •									
2	Resistance	Within Tolerance of Resistance	Measured at 25• • in Silicon Oil Bath								
3	B Value	Within Tolerance of B Value	$B_{25/85}[K]=LN(R_{25}/R_{85})/(1/T_{25}-1/T_{85})$								
4	Max Rated Wattage[mW]	1. Lead wire type : 50 ~ 200	Measured in the still air								
5	Heat Dissipation Constant [mW/• }]	1. Lead wire type : 0.5 ~ 2.0	Measured in the still air								
6	Solderability	1. No Serious mechanical damage 2. • R • ± 3% (Ref. To initial value) 3. • B • ± 3% (Ref. To initial value)	1. 400• • ; 5sec [electrical soldering iron]								
7	Humidity Test	1. No Serious mechanical damage 2. • R • ± 3% (Ref. To initial value) 3. • B • ± 3% (Ref. To initial value)	1. Test Temp. & Relative Humidity & Time : 85• ± 5• • , 85±5% RH, 500± 24Hrs 2. Let sit at room-Temp., for 24Hrs then Measure								
8	Thermal Shock	1. No Serious mechanical damage 2. • R • ± 3% (Ref. To initial value) 3. • B • ± 3% (Ref. To initial value)	1. Temp. : -40• ± 5• • ; +85• ± 5• • 2. Soak Time : 30min ± 3min The cycles is repeated 100 times								
9	High Temp. Storage	1. No Serious mechanical damage 2. • R • ± 3% (Ref. To initial value) 3. • B • ± 3% (Ref. To initial value)	1. Temp. : +85• ± 5• • 2. Time : 1000Hrs ± 12Hrs Let sit at R.T, for 24Hrs then Measure								
10	Low Temp. Storage	1. No Serious mechanical damage 2. • R • ± 3% (Ref. To initial value) 3. • B • ± 3% (Ref. To initial value)	1. Temp. : -40• ± 5• • 2. Time : 1000Hrs ± 12Hrs Let sit at R.T, for 24Hrs then Measure								
11	Tensile Strength	1. No Serious mechanical damage 2. Lead wire type: a. FA / RA / RB / RI series 1.0kgf apply for 10sec b. JT / PI / EW / AS series 3. SMD Chip type: <table border="1" style="margin-left: 20px;"> <tr> <td>Size</td> <td>1005</td> <td>1608</td> <td>2012</td> </tr> <tr> <td>W[kgf]</td> <td>0.5</td> <td>1.0</td> <td>2.0</td> </tr> </table>	Size	1005	1608	2012	W[kgf]	0.5	1.0	2.0	
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W[kgf]	0.5	1.0	2.0								



(Unit : kohm)

TEMP(C)	MIN	MEAN	MAX	R-TOL(MIN)	R-TOL(MAX)	T-TOL(MIN)	T-TOL(MAX)
<b>-40</b>	<b>202.155</b>	<b>210.514</b>	<b>219.198</b>	<b>3.97</b>	<b>4.12</b>	<b>0.71</b>	<b>0.73</b>
-39	191.239	199.036	207.130	3.92	4.07	0.70	0.73
-38	180.964	188.237	195.782	3.86	4.01	0.69	0.72
-37	171.290	178.075	185.110	3.81	3.95	0.69	0.71
-36	162.179	168.510	175.071	3.76	3.89	0.68	0.71
<b>-35</b>	<b>153.597</b>	<b>159.505</b>	<b>165.624</b>	<b>3.70</b>	<b>3.84</b>	<b>0.68</b>	<b>0.70</b>
-34	145.510	151.025	156.733	3.65	3.78	0.67	0.69
-33	137.890	143.038	148.363	3.60	3.72	0.66	0.69
-32	130.706	135.513	140.482	3.55	3.67	0.66	0.68
-31	123.933	128.421	133.059	3.50	3.61	0.65	0.67
<b>-30</b>	<b>117.545</b>	<b>121.737</b>	<b>126.066</b>	<b>3.44</b>	<b>3.56</b>	<b>0.65</b>	<b>0.67</b>
-29	111.519	115.434	119.476	3.39	3.50	0.64	0.66
-28	105.832	109.491	113.264	3.34	3.45	0.63	0.65
-27	100.466	103.884	107.408	3.29	3.39	0.63	0.65
-26	95.399	98.593	101.884	3.24	3.34	0.62	0.64
<b>-25</b>	<b>90.615</b>	<b>93.600</b>	<b>96.674</b>	<b>3.19</b>	<b>3.28</b>	<b>0.61</b>	<b>0.63</b>
-24	86.096	88.886	91.758	3.14	3.23	0.61	0.63
-23	81.826	84.435	87.118	3.09	3.18	0.60	0.62
-22	77.791	80.230	82.737	3.04	3.13	0.60	0.61
-21	73.976	76.257	78.600	2.99	3.07	0.59	0.61
<b>-20</b>	<b>70.370</b>	<b>72.503</b>	<b>74.693</b>	<b>2.94</b>	<b>3.02</b>	<b>0.58</b>	<b>0.60</b>
-19	66.959	68.954	71.001	2.89	2.97	0.58	0.59
-18	63.731	65.598	67.511	2.84	2.92	0.57	0.59
-17	60.678	62.423	64.213	2.80	2.87	0.56	0.58
-16	57.787	59.420	61.093	2.75	2.82	0.56	0.57
<b>-15</b>	<b>55.050</b>	<b>56.578</b>	<b>58.143</b>	<b>2.70</b>	<b>2.77</b>	<b>0.55</b>	<b>0.57</b>
-14	52.458	53.888	55.351	2.65	2.72	0.55	0.56
-13	50.002	51.340	52.709	2.61	2.67	0.54	0.55
-12	47.675	48.928	50.208	2.56	2.62	0.53	0.54
-11	45.470	46.642	47.839	2.51	2.57	0.53	0.54
<b>-10</b>	<b>43.379</b>	<b>44.476</b>	<b>45.596</b>	<b>2.47</b>	<b>2.52</b>	<b>0.52</b>	<b>0.53</b>
-9	41.396	42.423	43.471	2.42	2.47	0.51	0.52
-8	39.515	40.476	41.456	2.37	2.42	0.51	0.52
-7	37.730	38.630	39.547	2.33	2.37	0.50	0.51
-6	36.036	36.878	37.736	2.28	2.33	0.49	0.50
<b>-5</b>	<b>34.427</b>	<b>35.216</b>	<b>36.019</b>	<b>2.24</b>	<b>2.28</b>	<b>0.49</b>	<b>0.50</b>
-4	32.900	33.638	34.389	2.19	2.23	0.48	0.49
-3	31.449	32.140	32.843	2.15	2.19	0.47	0.48
-2	30.071	30.717	31.375	2.10	2.14	0.47	0.47
-1	28.761	29.366	29.981	2.06	2.09	0.46	0.47
<b>0</b>	<b>27.515</b>	<b>28.081</b>	<b>28.657</b>	<b>2.02</b>	<b>2.05</b>	<b>0.45</b>	<b>0.46</b>
1	26.331	26.861	27.399	1.97	2.00	0.45	0.45



TEMP(C)	MIN	MEAN	MAX	R-TOL(MIN)	R-TOL(MAX)	T-TOL(MIN)	T-TOL(MAX)
2	25.204	25.700	26.203	1.93	1.96	0.44	0.44
3	24.132	24.596	25.067	1.89	1.91	0.43	0.44
4	23.112	23.547	23.987	1.84	1.87	0.42	0.43
<b>5</b>	<b>22.141</b>	<b>22.548</b>	<b>22.959</b>	<b>1.80</b>	<b>1.82</b>	<b>0.42</b>	<b>0.42</b>
6	21.217	21.597	21.981	1.76	1.78	0.41	0.41
7	20.336	20.691	21.051	1.72	1.74	0.40	0.41
8	19.497	19.829	20.165	1.68	1.69	0.39	0.40
9	18.698	19.008	19.322	1.63	1.65	0.39	0.39
<b>10</b>	<b>17.936</b>	<b>18.226</b>	<b>18.519</b>	<b>1.59</b>	<b>1.61</b>	<b>0.38</b>	<b>0.38</b>
11	17.209	17.480	17.754	1.55	1.57	0.37	0.38
12	16.516	16.770	17.025	1.51	1.52	0.36	0.37
13	15.855	16.092	16.330	1.47	1.48	0.36	0.36
14	15.225	15.445	15.668	1.43	1.44	0.35	0.35
<b>15</b>	<b>14.623</b>	<b>14.829</b>	<b>15.036</b>	<b>1.39</b>	<b>1.40</b>	<b>0.34</b>	<b>0.34</b>
16	14.048	14.240	14.433	1.35	1.36	0.33	0.34
17	13.499	13.678	13.859	1.31	1.32	0.33	0.33
18	12.975	13.142	13.310	1.27	1.28	0.32	0.32
19	12.474	12.630	12.786	1.23	1.24	0.31	0.31
<b>20</b>	<b>11.996</b>	<b>12.141</b>	<b>12.286</b>	<b>1.19</b>	<b>1.20</b>	<b>0.30</b>	<b>0.30</b>
21	11.538	11.673	11.808	1.15	1.16	0.29	0.30
22	11.101	11.226	11.352	1.11	1.12	0.29	0.29
23	10.683	10.799	10.915	1.08	1.08	0.28	0.28
24	10.283	10.391	10.499	1.04	1.04	0.27	0.27
<b>25</b>	<b>9.900</b>	<b>10.000</b>	<b>10.100</b>	<b>1.00</b>	<b>1.00</b>	<b>0.26</b>	<b>0.26</b>
26	9.526	9.626	9.726	1.04	1.04	0.27	0.27
27	9.169	9.269	9.368	1.08	1.08	0.28	0.29
28	8.827	8.926	9.026	1.11	1.11	0.30	0.30
29	8.500	8.599	8.698	1.15	1.15	0.31	0.31
<b>30</b>	<b>8.187</b>	<b>8.285</b>	<b>8.383</b>	<b>1.19</b>	<b>1.19</b>	<b>0.32</b>	<b>0.32</b>
31	7.887	7.984	8.082	1.22	1.23	0.33	0.33
32	7.599	7.696	7.794	1.26	1.26	0.34	0.35
33	7.324	7.420	7.517	1.29	1.30	0.36	0.36
34	7.061	7.156	7.252	1.33	1.34	0.37	0.37
<b>35</b>	<b>6.808</b>	<b>6.902</b>	<b>6.997</b>	<b>1.37</b>	<b>1.38</b>	<b>0.38</b>	<b>0.38</b>
36	6.566	6.659	6.753	1.40	1.41	0.39	0.39
37	6.333	6.426	6.519	1.44	1.45	0.40	0.41
38	6.111	6.202	6.294	1.47	1.48	0.42	0.42
39	5.897	5.987	6.078	1.51	1.52	0.43	0.43
<b>40</b>	<b>5.692</b>	<b>5.781</b>	<b>5.871</b>	<b>1.54</b>	<b>1.56</b>	<b>0.44</b>	<b>0.44</b>
41	5.495	5.583	5.672	1.58	1.59	0.45	0.46
42	5.306	5.393	5.481	1.61	1.63	0.47	0.47
43	5.125	5.211	5.297	1.64	1.66	0.48	0.48
44	4.951	5.035	5.121	1.68	1.70	0.49	0.50
<b>45</b>	<b>4.783</b>	<b>4.867</b>	<b>4.951</b>	<b>1.71</b>	<b>1.73</b>	<b>0.50</b>	<b>0.51</b>
46	4.623	4.705	4.788	1.74	1.76	0.52	0.52
47	4.468	4.549	4.631	1.78	1.80	0.53	0.54
48	4.320	4.399	4.480	1.81	1.83	0.54	0.55
49	4.177	4.255	4.335	1.84	1.87	0.56	0.56
<b>50</b>	<b>4.040</b>	<b>4.117</b>	<b>4.195</b>	<b>1.87</b>	<b>1.90</b>	<b>0.57</b>	<b>0.58</b>
51	3.908	3.984	4.061	1.91	1.93	0.58	0.59
52	3.781	3.855	3.931	1.94	1.97	0.59	0.60
53	3.658	3.732	3.807	1.97	2.00	0.61	0.62
54	3.541	3.613	3.687	2.00	2.03	0.62	0.63
<b>55</b>	<b>3.427</b>	<b>3.499</b>	<b>3.571</b>	<b>2.03</b>	<b>2.07</b>	<b>0.63</b>	<b>0.64</b>
56	3.318	3.388	3.460	2.07	2.10	0.65	0.66
57	3.213	3.282	3.352	2.10	2.13	0.66	0.67
58	3.112	3.180	3.249	2.13	2.16	0.67	0.68
59	3.015	3.081	3.149	2.16	2.20	0.69	0.70
<b>60</b>	<b>2.921</b>	<b>2.986</b>	<b>3.053</b>	<b>2.19</b>	<b>2.23</b>	<b>0.70</b>	<b>0.71</b>
61	2.830	2.895	2.960	2.22	2.26	0.71	0.73
62	2.743	2.806	2.871	2.25	2.29	0.73	0.74
63	2.659	2.721	2.784	2.28	2.32	0.74	0.76
64	2.578	2.639	2.701	2.31	2.35	0.75	0.77
<b>65</b>	<b>2.500</b>	<b>2.560</b>	<b>2.621</b>	<b>2.34</b>	<b>2.39</b>	<b>0.77</b>	<b>0.78</b>
66	2.424	2.483	2.543	2.37	2.42	0.78	0.80
67	2.351	2.409	2.468	2.40	2.45	0.80	0.81
68	2.281	2.338	2.396	2.43	2.48	0.81	0.83

2



TEMP(C)	MIN	MEAN	MAX	R-TOL(MIN)	R-TOL(MAX)	T-TOL(MIN)	T-TOL(MAX)
69	2.213	2.269	2.326	2.46	2.51	0.82	0.84
<b>70</b>	<b>2.148</b>	<b>2.203</b>	<b>2.258</b>	<b>2.49</b>	<b>2.54</b>	<b>0.84</b>	<b>0.86</b>
71	2.084	2.138	2.193	2.52	2.57	0.85	0.87
72	2.023	2.076	2.130	2.54	2.60	0.87	0.88
73	1.964	2.016	2.069	2.57	2.63	0.88	0.90
74	1.907	1.958	2.010	2.60	2.66	0.89	0.91
<b>75</b>	<b>1.852</b>	<b>1.902</b>	<b>1.953</b>	<b>2.63</b>	<b>2.69</b>	<b>0.91</b>	<b>0.93</b>
76	1.799	1.848	1.898	2.66	2.72	0.92	0.94
77	1.748	1.796	1.845	2.69	2.75	0.94	0.96
78	1.698	1.745	1.794	2.71	2.78	0.95	0.97
79	1.650	1.696	1.744	2.74	2.81	0.96	0.99
<b>80</b>	<b>1.603</b>	<b>1.649</b>	<b>1.695</b>	<b>2.77</b>	<b>2.84</b>	<b>0.98</b>	<b>1.00</b>
81	1.558	1.603	1.649	2.80	2.87	0.99	1.02
82	1.514	1.558	1.604	2.82	2.90	1.01	1.03
83	1.472	1.515	1.560	2.85	2.92	1.02	1.05
84	1.431	1.474	1.517	2.88	2.95	1.04	1.06
<b>85</b>	<b>1.392</b>	<b>1.434</b>	<b>1.476</b>	<b>2.90</b>	<b>2.98</b>	<b>1.05</b>	<b>1.08</b>
86	1.354	1.395	1.437	2.93	3.01	1.06	1.09
87	1.317	1.357	1.398	2.96	3.04	1.08	1.11
88	1.281	1.320	1.361	2.98	3.07	1.09	1.12
89	1.246	1.285	1.325	3.01	3.09	1.11	1.14
<b>90</b>	<b>1.213</b>	<b>1.250</b>	<b>1.290</b>	<b>3.04</b>	<b>3.12</b>	<b>1.12</b>	<b>1.15</b>
91	1.180	1.217	1.256	3.06	3.15	1.14	1.17
92	1.148	1.185	1.223	3.09	3.18	1.15	1.18
93	1.118	1.154	1.191	3.12	3.20	1.17	1.20
94	1.088	1.123	1.160	3.14	3.23	1.18	1.21
<b>95</b>	<b>1.059</b>	<b>1.094</b>	<b>1.130</b>	<b>3.17</b>	<b>3.26</b>	<b>1.19</b>	<b>1.23</b>
96	1.031	1.065	1.100	3.19	3.29	1.21	1.25
97	1.004	1.038	1.072	3.22	3.31	1.22	1.26
98	0.978	1.011	1.045	3.24	3.34	1.24	1.28
99	0.953	0.985	1.018	3.27	3.37	1.25	1.29
<b>100</b>	<b>0.928</b>	<b>0.959</b>	<b>0.992</b>	<b>3.29</b>	<b>3.40</b>	<b>1.27</b>	<b>1.31</b>
101	0.904	0.935	0.967	3.32	3.42	1.28	1.32
102	0.881	0.911	0.943	3.34	3.45	1.30	1.34
103	0.858	0.888	0.919	3.37	3.48	1.31	1.35
104	0.836	0.866	0.896	3.39	3.50	1.33	1.37
<b>105</b>	<b>0.815</b>	<b>0.844</b>	<b>0.873</b>	<b>3.42</b>	<b>3.53</b>	<b>1.34</b>	<b>1.38</b>
106	0.794	0.823	0.852	3.44	3.55	1.35	1.40
107	0.774	0.802	0.831	3.47	3.58	1.37	1.41
108	0.755	0.782	0.810	3.49	3.61	1.38	1.43
109	0.736	0.763	0.790	3.52	3.63	1.40	1.45
<b>110</b>	<b>0.717</b>	<b>0.744</b>	<b>0.771</b>	<b>3.54</b>	<b>3.66</b>	<b>1.41</b>	<b>1.46</b>
111	0.699	0.725	0.752	3.56	3.69	1.43	1.48
112	0.682	0.707	0.734	3.59	3.71	1.44	1.49
113	0.665	0.690	0.716	3.61	3.74	1.46	1.51
114	0.649	0.673	0.699	3.64	3.76	1.47	1.52
<b>115</b>	<b>0.633</b>	<b>0.657</b>	<b>0.682</b>	<b>3.66</b>	<b>3.79</b>	<b>1.49</b>	<b>1.54</b>
116	0.617	0.641	0.665	3.68	3.81	1.50	1.55
117	0.602	0.625	0.649	3.71	3.84	1.51	1.57
118	0.588	0.610	0.634	3.73	3.86	1.53	1.58
119	0.573	0.596	0.619	3.75	3.89	1.54	1.60
<b>120</b>	<b>0.559</b>	<b>0.581</b>	<b>0.604</b>	<b>3.78</b>	<b>3.91</b>	<b>1.56</b>	<b>1.61</b>
121	0.546	0.567	0.590	3.80	3.94	1.57	1.63
122	0.533	0.554	0.576	3.82	3.96	1.59	1.64
123	0.520	0.541	0.562	3.85	3.99	1.60	1.66
124	0.508	0.528	0.549	3.87	4.01	1.61	1.68
<b>125</b>	<b>0.495</b>	<b>0.516</b>	<b>0.536</b>	<b>3.89</b>	<b>4.04</b>	<b>1.63</b>	<b>1.69</b>

