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PRODUCT DATASHEET

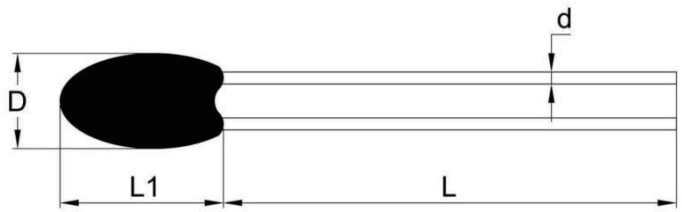
NTC Devices

MF52A103F3435 (J1)NTC Devices

Electrical Characteristics

Item	Symbol	Conditions	Requirements
Rated zero-power resistance	R_{25}	Ta=25±0.5°C, (Test Power≤0.1mW，in air)	10kΩ±1%
B-value	$B_{25/85}$	B=[(Ta×Tb)/(Tb-Ta)]×ln(Ra/Rb)	3435K ±1 %
Thermal dissipationCoefficient	δ	Ta=25±0.01°C Tb=50±0.01°C	2 mW/°C
Thermal time constant	τ	In still air	8s
Operating temperature range	/	In still air	-40 to 115℃
Maximum rated power	P_{max}	/	10 mW

Physical Dimensions(mm.)



Dmax	L1max	L	d
2.4	5.7	22.3±2	0.3±0.05

Material List

N0	Material name	Specification
1	chip	10K 3435
2	Epoxy	FC505A/FC505B
3	Wire	Tinned copper wire

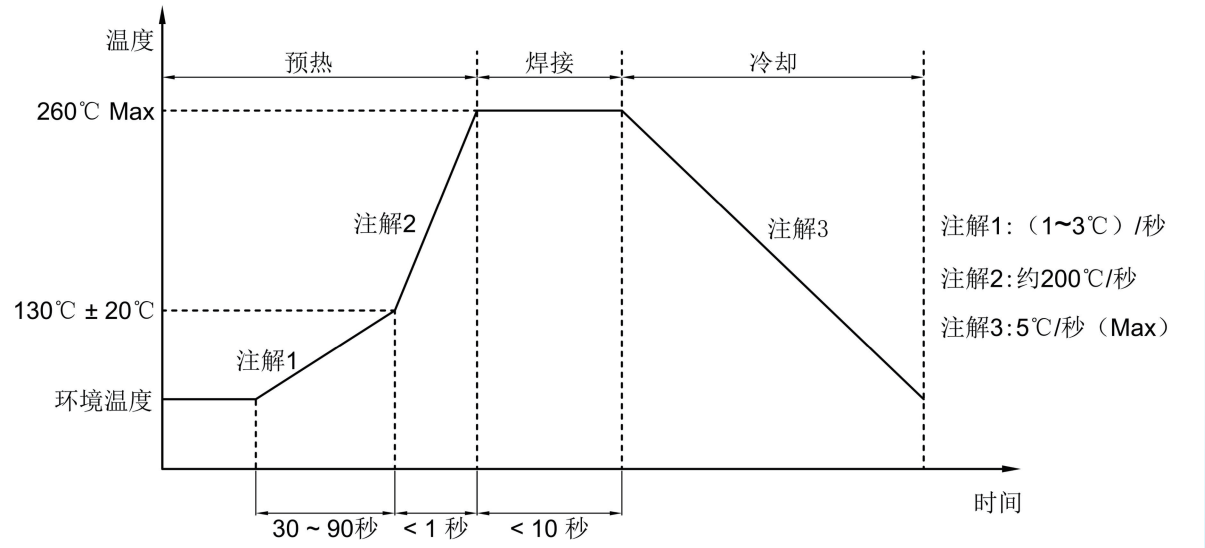
Reliability

Item	Testing method	Performance
Thermal Shock	Temperature：－40℃，＋80℃; Cycle：100，30min/cyc	｜△R25/ R25｜≤5% ｜△B/ B｜≤2%
High temperatureand high humidity	Temperature：40±2℃ 95% RH*1000HRS;	｜△R25/ R25｜≤5% ｜△B/ B｜≤5%
Low temperature storage	Temperature：：－40±2℃; Time：1000±24 h	｜△R25/ R25｜≤2% ｜△B/ B｜≤2%

Packaging Quantity

Model	Packing Type	Bag QTY
MF52A103F3435 (J1)	Bulk Type	500

Recommended wave soldering profile



Application Notice

1. Usage of this product: Temperature measurement and control;
2. To avoid of testing tolerance caused by huge current upon the self-heat of component;
3. When soldering by soldering iron, the distance between the welding place and the coating head should be atleast 2mm, the welding temperature should be lower than 360℃, and the welding time should be less than 3sec;
4.Storage temperature: -10℃～ 40℃; storage humidity: ≤75% RH;
5.To avoid of leaving with such environment as corrosive gases and illumination;
6.The packing need to be resealed since opened, storage period 1 year once valid, it should be retest accordingto regulated of criterion and can be still used if meet the requirement;
7.If the heat shrinkable tube is used in the manufacturing process, do not use a hair dryer to shrink the tube. This is a recommended heat shrinkable process that puts the product covered shrinkable tube into a constant temperature oven, and shrink them at 110℃/10 ~ 12min;
8.For the MF52A, B, C, D Type NTC thermistors, they are all radial lead-out structure, shall not be used to pull itstwo leads into 180°axial;
9.The core chip of the product is a ceramic semiconductor. Avoid extrusion or physical impact on the epoxy endin the process of use, so as not to cause product damage。

R-T Table

Temp (℃)	Resistance (KΩ)		
	Max	Center	Min
-40	196.059	188.500	181.215
-39	185.569	178.512	171.706
-38	175.705	169.115	162.755
-37	166.427	160.271	154.327
-36	157.696	151.944	146.386
-35	149.476	144.100	138.903
-34	141.784	136.756	131.893
-33	134.533	129.830	125.278
-32	127.695	123.294	119.033
-31	121.243	117.125	113.135
-30	115.155	111.300	107.564
-29	109.347	105.741	102.243
-28	103.867	100.493	97.218
-27	98.694	95.537	92.470
-26	93.811	90.855	87.983

R-T Table

Temp (℃)	Resistance (KΩ)		
	Max	Center	Min
-25	89.197	86.430	83.740
-24	84.871	82.278	79.757
-23	80.778	78.349	75.985
-22	76.906	74.629	72.413
-21	73.241	71.107	69.028
-20	69.770	67.770	65.821
-19	66.453	64.579	62.752
-18	63.314	61.558	59.845
-17	60.341	58.695	57.089
-16	57.524	55.982	54.476
-15	54.855	53.410	51.997
-14	52.346	50.990	49.665
-13	49.965	48.693	47.449
-12	47.704	46.512	45.344
-11	45.558	44.439	43.344
-10	43.520	42.470	41.442
-9	41.559	40.575	39.611
-8	39.698	38.776	37.871
-7	37.931	37.067	36.219
-6	36.254	35.443	34.648
-5	34.660	33.900	33.154
-4	33.155	32.443	31.742
-3	31.724	31.056	30.399
-2	30.362	29.735	29.119
-1	29.065	28.478	27.899
0	27.831	27.280	26.738
1	26.645	26.129	25.621
2	25.517	25.034	24.557
3	24.444	23.991	23.544
4	23.421	22.997	22.578
5	22.447	22.050	21.658
6	21.527	21.155	20.787
7	20.648	20.300	19.955

R-T Table

Temp (C)	Resistance (KΩ)		
	Max	Center	Min
8	19.810	19.484	19.161
9	19.010	18.704	18.402
10	18.246	17.960	17.677
11	17.512	17.244	16.979
12	16.811	16.561	16.313
13	16.142	15.908	15.676
14	15.504	15.285	15.068
15	14.894	14.690	14.487
16	14.313	14.123	13.933
17	13.758	13.581	13.404
18	13.228	13.062	12.897
19	12.720	12.565	12.411
20	12.234	12.090	11.946
21	11.769	11.635	11.501
22	11.324	11.199	11.075
23	10.898	10.782	10.666
24	10.490	10.383	10.275
25	10.100	10.000	9.900
26	9.733	9.633	9.534
27	9.382	9.282	9.182
28	9.045	8.945	8.846
29	8.722	8.623	8.524
30	8.412	8.313	8.215
31	8.114	8.016	7.918
32	7.827	7.730	7.633
33	7.553	7.456	7.360
34	7.289	7.193	7.097
35	7.035	6.940	6.846
36	6.793	6.699	6.605
37	6.561	6.467	6.375
38	6.337	6.245	6.154
39	6.123	6.032	5.941
40	5.917	5.827	5.738
41	5.718	5.629	5.541
42	5.527	5.439	5.352

R-T Table

Temp (C)	Resistance (KΩ)		
	Max	Center	Min
43	5.343	5.257	5.171
44	5.167	5.081	4.996
45	4.997	4.912	4.828
46	4.833	4.750	4.668
47	4.676	4.594	4.513
48	4.525	4.444	4.364
49	4.380	4.300	4.221
50	4.240	4.161	4.083
51	4.104	4.026	3.950
52	3.973	3.897	3.822
53	3.847	3.772	3.698
54	3.726	3.652	3.579
55	3.609	3.536	3.464
56	3.497	3.425	3.355
57	3.389	3.318	3.249
58	3.284	3.215	3.147
59	3.184	3.116	3.049
60	3.087	3.020	2.954
61	2.993	2.927	2.863
62	2.903	2.838	2.774
63	2.815	2.752	2.689
64	2.731	2.668	2.607
65	2.649	2.588	2.528
66	2.571	2.511	2.452
67	2.496	2.436	2.378
68	2.423	2.365	2.307
69	2.352	2.295	2.239
70	2.284	2.228	2.173
71	2.218	2.163	2.109
72	2.155	2.100	2.047
73	2.093	2.039	1.987
74	2.033	1.981	1.929
75	1.976	1.924	1.874
76	1.920	1.869	1.820
77	1.866	1.816	1.768

R-T Table

Temp (C)	Resistance (KΩ)		
	Max	Center	Min
78	1.814	1.765	1.718
79	1.764	1.716	1.669
80	1.715	1.668	1.622
81	1.668	1.622	1.577
82	1.622	1.577	1.533
83	1.578	1.534	1.490
84	1.535	1.492	1.449
85	1.494	1.451	1.409
86	1.454	1.412	1.370
87	1.415	1.373	1.333
88	1.377	1.336	1.297
89	1.341	1.301	1.262
90	1.305	1.266	1.228
91	1.271	1.232	1.195
92	1.238	1.200	1.163
93	1.206	1.168	1.132
94	1.174	1.138	1.102
95	1.144	1.108	1.073
96	1.115	1.079	1.045
97	1.086	1.052	1.018
98	1.059	1.025	0.992
99	1.032	0.998	0.966
100	1.006	0.973	0.941
101	0.981	0.949	0.917
102	0.956	0.925	0.894
103	0.933	0.901	0.871
104	0.910	0.879	0.849
105	0.887	0.857	0.828
106	0.866	0.836	0.807
107	0.845	0.816	0.787
108	0.824	0.796	0.768
109	0.804	0.776	0.749
110	0.785	0.758	0.731
111	0.766	0.739	0.713
112	0.748	0.722	0.696

R-T Table

Temp (℃)	Resistance (KΩ)		
	Max	Center	Min
113	0.731	0.704	0.679
114	0.713	0.688	0.663
115	0.697	0.671	0.647

Part Number System

MF52 A 103 F 3435 (J 1)

- 1:The outer diameter of lead wire is Φ0.3mm
- J:JDT
- 3435: $B_{25/85}$:3435K
- F: Resistance precision code F-±1% G-±2% H-±3% J-±5%
- 103: Zero Power Resistance at 25℃ is 10kΩ
- A:Refers to tinned lead
- MF52:Series Temp Measurement NTC Thermistor