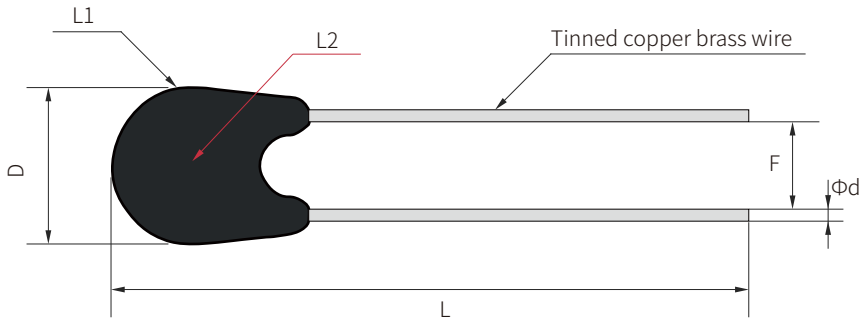
OUTLINE DIMENSIONS



D(Max.)	L1	L(Max.)	Φd	F
1.8-2.2mm	4mm	32mm	0.36±2mm	2.0mm

PART NUMBER

MF52	A1	103	F	3950
Bead-type Temperature-sensing NTC Thermistor	Tinned Steel Lead Wire	Resistance Value	Resistance Tolerance	B Value(25/50)
		10KΩ	±1%	3950K

ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Conditions	Unit	Specifications
Zero-power Resistance at 25°C	R_{25}	Ta = 25 ± 0.05°C, testing power ⩽ 0.1 mW Testing in flowing liquids	KΩ	10±1%
B Value	B25/50	$B=[(T_a \times T_b)/(T_b-T_a)] \times \ln(R_a/R_b)$ T_b= 50°C±0.1°C	K	3950±1%
Dissipation Coefficient	δ	In still air	mW/°C	⩾2
Time Constant	τ	In still air	sec	⩽7
Insulation Resistance	/	100V/DC1min	MΩ	⩾100
Operating Temperature Range	/	/	°C	-20~120
Resistance Temperature Characteristics	/	/	/	See Exhibit 1
Resistance Error	/	/	/	See Exhibit 2

RELIABILITY TESTING

Item	Test Conditions and Methods	Test Conditions and Methods
Solderability	Dip the lead into molten solder at 235±5°C, with the solder surface 6mm away from the lower end of the body, for 2-3 seconds.	The solder on the surface of the lead-in part should be evenly coated, smooth, and cover more than 95% of the area.
Resistance to Soldering Heat	Immerse the lead into molten solder at 265°C ± 5°C, with the liquid surface 6 mm away from the resistor body, for 5 ± 1 seconds	No visible damage, R_{25}ΔR/R≤±2%
Terminal Strength	Tensile strength: 5N, duration: 10 seconds.	No visible damage, R_{25}ΔR/R≤±2%
Rapid Temperature Change	55°C30min→25°Cmin→125°C30min→ 25°Cmin,Repeat 5 times, recover for 4 hours	No visible damage, R_{25}ΔR/R≤±2%
High Temperature	Temperature: 125°C, time: 16 hours	No visible damage, R_{25}ΔR/R≤±2%
Cold	Temperature: -55°C, time: 16 hours	No visible damage, R_{25}ΔR/R≤±2%
Low Air Pressure	Air pressure: 40±0.1Kpa, time 4 hours	No visible damage, R_{25}ΔR/R≤±2%
Damp Heat, Steady State	Temperature: 40°C, Humidity: 93%, Time: 500±12 hours	No visible damage, R_{25}ΔR/R≤±2% Withstand voltage ≥700V/AC1min Insulation resistance ≥100 KΩ
Damp Heat, Cyclic State	Temperature: 25~40°C, Humidity: 90%, Time: 24 hours	No visible damage, R_{25}ΔR/R≤±2% Withstand voltage ≥700V/AC1min Insulation resistance ≥100 KΩ
Endurance at Upper Category Temperature with Zero Load	Temperature: 125°C±2°C Time: 1000±24 hours	No visible damage, R_{25}ΔR/R≤±2%
Vibration	Frequency range: 10~500HZ, amplitude: 0.75mm or 98m/S2, Time 2 hours	No visible damage, R_{25}ΔR/R≤±2%
Shock	Acceleration: 250m/S2, pulse duration: 6Ms, number of collisions 4000 times	No visible damage, R_{25}ΔR/R≤±2%

Soldering Conditions	When welding, the welding point should be 6mm away from the root of the resistor. The welding temperature should be lower than 350°C and the welding time should be as short as possible.
Storage Conditions	Storage temperature: -10°C～40°C
	Storage humidity: ≤75%RH
	Avoid storage in environments with corrosive gases and light
	The package needs to be resealed after opening

TEMPERATURE VS RESISTANCE TABLE
Resistance 10kΩ at 25°C
B Value 3950K at 25/50°C

Temp. (°C)	R (kΩ)	Temp. (°C)	R (kΩ)	Temp. (°C)	R (kΩ)	Temp. (°C)	R (kΩ)
-20	97.8396	35	6.5221	90	0.9040	145	0.2015
-19	92.3020	36	6.2576	91	0.8764	146	0.1968
-18	87.1124	37	6.0051	92	0.8498	147	0.1922
-17	82.2471	38	5.7642	93	0.8241	148	0.1877
-16	77.6837	39	5.5342	94	0.7994	149	0.1833
-15	73.4018	40	5.3146	95	0.7754	150	0.1791
-14	69.3823	41	5.1049	96	0.7523	151	0.1749
-13	65.6077	42	4.9045	97	0.7300	152	0.1709
-12	62.0616	43	4.7130	98	0.7085	153	0.1670
-11	58.7288	44	4.5300	99	0.6877	154	0.1632
-10	55.5953	45	4.3551	100	0.6676	155	0.1595
-9	52.6480	46	4.1878	101	0.6482	156	0.1559
-8	49.8747	47	4.0278	102	0.6295	157	0.1524
-7	47.2643	48	3.8748	103	0.6113	158	0.1490
-6	44.8062	49	3.7283	104	0.5938	159	0.1457
-5	42.4906	50	3.5882	105	0.5769	160	0.1425
-4	40.3086	51	3.4540	106	0.5605	161	0.1394
-3	38.2516	52	3.3255	107	0.5447	162	0.1363
-2	36.3117	53	3.2025	108	0.5293	163	0.1333
-1	34.4817	54	3.0846	109	0.5145	164	0.1304
0	32.7547	55	2.9717	110	0.5002	165	0.1276
1	31.1243	56	2.8635	111	0.4863	166	0.1249
2	29.5847	57	2.7597	112	0.4729	167	0.1222
3	28.1301	58	2.6603	113	0.4599	168	0.1196
4	26.7556	59	2.5649	114	0.4474	169	0.1170
5	25.4562	60	2.4734	115	0.4352	170	0.1146
6	24.2274	61	2.3856	116	0.4234	171	0.1121
7	23.0650	62	2.3014	117	0.4120	172	0.1098
8	21.9650	63	2.2206	118	0.4009	173	0.1075
9	20.9239	64	2.1431	119	0.3902	174	0.1053
10	19.9380	65	2.0686	120	0.3799	175	0.1031
11	19.0041	66	1.9970	121	0.3698	176	0.1010
12	18.1193	67	1.9283	122	0.3601	177	0.0989
13	17.2807	68	1.8623	123	0.3506	178	0.0969
14	16.4857	69	1.7989	124	0.3415	179	0.0949
15	15.7317	70	1.7380	125	0.3326	180	0.0930
16	15.0164	71	1.6794	126	0.3240	181	0.0911

Temp. (°C)	R (kΩ)	Temp. (°C)	R (kΩ)	Temp. (°C)	R (kΩ)	Temp. (°C)	R (kΩ)
17	14.3376	72	1.6231	127	0.3157	182	0.0893
18	13.6933	73	1.5689	128	0.3076	183	0.0875
19	13.0816	74	1.5168	129	0.2998	184	0.0858
20	12.5005	75	1.4667	130	0.2922	185	0.0841
21	11.9485	76	1.4185	131	0.2848	186	0.0824
22	11.4239	77	1.3722	132	0.2776	187	0.0808
23	10.9252	78	1.3275	133	0.2707	188	0.0792
24	10.4510	79	1.2845	134	0.2640	189	0.0777
25	10.0000	80	1.2431	135	0.2574	190	0.0762
26	9.5709	81	1.2033	136	0.2511	191	0.0747
27	9.1626	82	1.1649	137	0.2449	192	0.0733
28	8.7738	83	1.1279	138	0.2389	193	0.0719
29	8.4037	84	1.0923	139	0.2331	194	0.0705
30	8.0512	85	1.0580	140	0.2274	195	0.0692
31	7.7154	86	1.0249	141	0.2220	196	0.0679
32	7.3953	87	0.9930	142	0.2166	197	0.0666
33	7.0903	88	0.9623	143	0.2114	198	0.0654
34	6.7995	89	0.9326	144	0.2064	199	0.0642

ORDERING INFORMATION

Part Number	QTY/Bag
MF52A103F3950	1000PCS

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