

Vatronics Technologies Limited

Vatronics MF58 High Precision Thermistors

* Introduction:

••Combines ceramic technology and semiconductor technology; axial lead on both ends; and glass encapsulation.

* Applications:

••1•Temperature control and check of household appliances such as air conditioner, microwave oven, electric fan, electric oven and more.

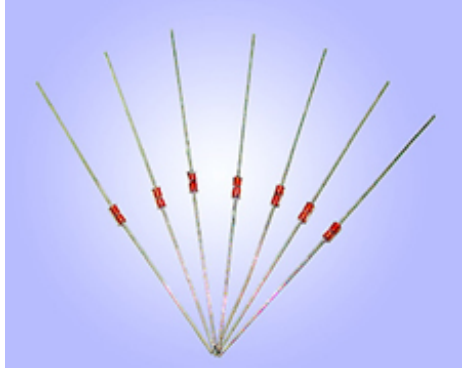
••2•Temperature check or temperature compensation of office auto equipment such as copying machine, printing machine and more.

••3•Temperature control and check of industrial, medical, environmental protection, meteorologic and food processing equipments.

••4•Liquid level indication and flux measurement.

••5•Mobile cells.

••6•Temperature compensation of instrument coil, IC, quartz crystal oscillator and thermocouple.



* Features:

••1• Good stability and high reliability.

••2• Wide resistance range: 0.1-1000K.

••3• Precision resistance.

••4• Glass encapsulation, suitable for high temperature severe-service applications.

••5• Small size, light weight, firm structure, and convenient for auto mounting (in PCBs).

••6• Quick response and high sensibility.

* Main Technical Parameters:

••1•Rated zero-power resistance range: (R25):0.1~1000K Ω

••2•R25 allowable tolerance: $\pm 1\%$, $\pm 2\%$, $\pm 3\%$, $\pm 5\%$, $\pm 10\%$.

••3•B value range: (B25/50):1960~4480K

••4•B value allowable tolerance: $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$.

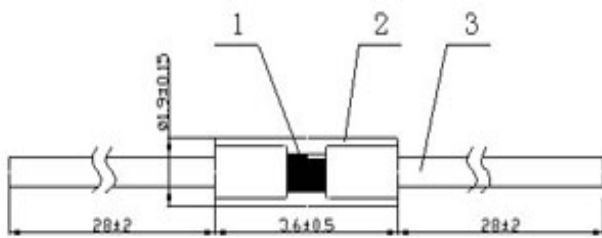
- 5•Dissipation coefficient: 2mW/° (in still air)
- 6•Thermal time constant: 20S (in still air)
- 7•Operating temperature range: -55~ +300
- 8•Rated power: ≤50mW

*** Vatronics Part Number System:**



- ① Glass encapsulated thermistor ② Z•Axial lead type J•Radial lead type ③ Resistance: 103----10KΩ 502---5KΩ
- ④ Resistance tolerance: F•±1% G•±2% H•±3% J•±5% K•±10% ⑤ L•B25/50 H•B25/85 T•Special temperature range
- ⑥ B value: 347----3470 338----3380 (First three digits are significant.)

*** Dimensions:**



MF58Z •1---chip, 2---glass encapsulation, 3---lead wire



MF58J • 1---chip, 2---glass encapsulation, 3---lead wire

*** MF58Z Common Type Resistance-Temperature Contrast: (Unit:KΩ)**

	5 KΩ	10 KΩ	5KΩ	10 KΩ	10 KΩ	10 KΩ	10 KΩ	47 KΩ	50KΩ	100KΩ	23KΩ
	3270	3380	3470	3470	3550	3700	3950	3950	3950	3990	4200
-40	91.35	201.36	109.52	223.17	244.82	278.64	343.12	1672.6	1715.6	••	960
-35	69.936	152.72	82.394	167.6	181.45	204.43	247.22	1195.8	1236.1	••	681.7
-30	54.022	116.91	62.588	127.09	135.97	151.58	180.17	865.62	900.83	1810	489.1
-25	42.08	90.288	47.975	97.256	105.94	113.53	132.72	633.97	663.58	1338	354.4
-20	33.034	70.301	37.088	75.066	78.687	85.854	98.754	469.43	493.77	997.9	259.3

-15	26.131	55.165	28.903	58.41	60.7	65.52	74.184	351.21	370.92	750.4	190.5
-10	20.814	43.604	22.695	45.797	47.229	50.439	56.229	265.34	281.14	568.8	142.7
-5	16.688	34.705	17.948	36.167	37.046	39.153	42.981	202.32	214.91	434.6	107.3
0	13.452	27.794	14.286	28.748	29.283	30.635	33.109	155.61	165.54	334.5	81.38
5	10.907	22.378	11.435	22.952	23.315	24.152	25.676	120.68	128.38	259.3	62.24
10	8.898	18.134	9.213	18.427	18.691	19.179	20.067	94.316	100.34	202.4	47.98
15	7.302	14.786	7.471	14.942	15.082	15.336	15.8	74.262	79.002	159.1	37.27
20	6.026	12.126	6.094	12.189	12.245	12.345	12.528	58.882	62.641	125.8	29.17
25	5	10	5	10	10	10	10	47	50	100	23
30	4.173	8.295	4.127	8.253	8.217	8.15	8.037	37.775	40.186	80.23	18.26
35	3.503	6.922	3.427	6.854	6.795	6.681	6.506	30.576	32.528	64.77	14.59
40	2.957	5.81	2.863	5.726	5.653	5.507	5.301	24.917	26.507	52.6	11.74
45	2.509	4.903	2.406	4.811	4.731	4.564	4.348	20.436	21.741	42.96	9.601
50	2.139	4.16	2.032	4.064	3.981	3.801	3.588	16.864	17.941	35.28	7.735
55	1.831	3.542	1.723	3.445	3.359	3.183	2.974	13.973	14.869	29.12	6.333
60	1.573	3.028	1.467	2.934	2.847	2.677	2.477	11.636	12.387	24.16	5.213
65	1.357	2.6	1.255	2.509	2.423	2.262	2.047	9.736	10.37	20.15	4.312
70	1.174	2.241	1.077	2.154	2.071	1.92	1.744	8.841	8.722	16.87	6.585
75	1.018	1.935	0.926	1.853	1.776	1.636	1.47	6.91	7.351	14.2	2.994
80	0.885	1.676	0.799	1.599	1.529	1.4	1.244	5.859	6.22	12	2.511
85	0.772	1.455	0.692	1.384	1.315	1.203	1.057	4.988	5.283	10.17	2.114
90	0.673	1.264	0.599	1.198	1.135	1.037	0.898	4.24	4.489	8.661	1.767
95	0.588	1.101	0.52	1.039	0.981	0.897	0.765	3.61	3.827	7.408	1.516
100	0.515	0.961	0.452	0.904	0.851	0.779	0.654	3.091	3.271	6.36	1.29
105	0.452	0.84	0.394	0.788	0.74	0.679	0.561	2.651	2.804	5.48	1.101
110	0.398	0.737	0.345	0.689	0.644	0.594	0.482	2.28	2.411	4.738	0.942
115	0.351	0.647	0.302	0.604	0.563	0.52	0.416	1.965	2.078	4.11	•
120	0.31	0.57	0.265	0.53	0.492	•	0.359	1.698	1.795	3.581	•
125	0.274	0.503	0.233	0.466	0.432	•	0.311	1.471	1.555	3.126	•

130	0.243	0.444	0.205	0.411	0.38	•	0.27	1.278	1.35	2.737	•
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* **Vatronics MF58J High-Temperature Resistance Type Resistance-Temperature Characteristics:**

阻值 B 值 温度 (°C)	R200• =1KΩ	R200• =4KΩ	R200• =8KΩ	阻值 B 值 温度 (°C)	R200• =1KΩ	R200• =4KΩ	R200• =8KΩ
	B100/200= 4537K±3%	B200/300= 5133K±3%	B150/250= 5300K±3%		B100/200= 4537K±3%	B200/300= 5133K±3%	B150/250= 5300K±3%
0	806.5	5336	15577	250	0.3865	1.432	2.699
5	618.9	4009	11544	255	0.3547	1.305	2.446
10	478.8	3039	8632	260	0.3259	1.191	2.22
15	373.1	2322	6511	265	0.3	1.088	2.018
20	292.9	1789	4951	270	0.2765	0.9958	1.837
25	231.4	1388	3794	275	0.2552	0.9127	1.675
30	184.1	1085	2929	280	0.2358	0.8377	1.53
35	147.4	853.9	2278	285	0.2182	0.77	1.399
40	118.7	676.5	1783	290	0.2022	0.7086	1.128
45	96.13	539.3	1405	295	0.1876	0.6531	1.175
50	78.29	432.5	1115	300	0.1743	0.6026	1.079
55	64.1	348.9	889.3	305	0.1621	0.5565	0.9923
60	52.76	283	713.6	310	0.1509	0.5146	0.9137
65	43.63	230.8	575.9	315	0.1406	0.4764	0.8423
70	36.26	189.2	467.2	320	0.1311	0.4415	0.7775
75	30.27	155.9	380.9	325	0.1224	0.4097	0.7185
80	25.38	129	312.2	330	0.1144	0.3806	0.6648
85	21.37	107.3	257	335	0.1071	0.3539	0.6159
90	18.06	89.57	212.6	340	0.1003	0.3295	0.5711
95	15.33	75.12	176.7	345	0.094	0.3071	0.5302
100	13.06	63.26	147.4	350	0.0882	0.2864	0.4928
105	11.17	53.48	123.5	355	0.0828	0.2675	0.4585
110	9.585	45.38	103.9	360	0.0778	0.25	0.427

115	8.254	38.65	87.71	365	0.0732	0.2339	0.3981
120	7.131	33.04	74.34	370	0.0689	0.2191	0.3715
125	6.181	28.34	63.23	375	0.0649	0.2054	0.3471
130	5.374	24.39	53.97	380	0.0612	0.1927	0.3245
135	4.686	21.05	46.22	385	0.0578	0.181	0.3037
140	4.098	18.23	39.71	390	0.0546	0.1701	0.2845
145	3.594	15.84	34.22	395	0.0516	0.16	0.2668
150	3.161	13.8	29.58	400	0.0488	0.1507	0.2503
155	2.787	12.05	25.65	405	0.0462	0.142	0.2351
160	2.464	10.56	22.3	410	0.0437	0.1339	0.221
165	2.184	9.272	19.45	415	0.0414	0.1264	0.208
170	1.94	8.164	17	420	0.0393	0.1194	0.1958
175	1.728	7.207	14.9	425	0.0373	0.1128	0.1845
180	1.542	6.377	13.1	430	0.0354	0.1067	0.174
185	1.379	5.656	11.54	435	0.0336	0.1011	0.1642
190	1.237	5.028	10.19	440	0.032	0.0957	0.1551
195	1.111	4.48	9.018	445	0.0304	0.0908	0.1466
200	1	4	8	450	0.029	0.0861	0.1387
205	0.902	3.579	7.112	455	0.0276	0.0818	0.1313
210	0.8151	3.209	6.337	460	0.0263	0.0777	0.1244
215	0.738	2.882	5.658	465	0.0251	0.0739	0.1179
220	0.6694	2.594	5.061	470	0.0239	0.0703	0.1118
225	0.6083	2.34	4.537	475	0.0228	0.0669	0.1061
230	0.5537	2.114	4.075	480	0.0218	0.0637	0.1008
235	0.5049	1.913	3.666	485	0.0208	0.0607	0.0958
240	0.4611	1.734	3.305	490	0.0199	0.0579	0.0911
245	0.4218	1.575	2.984	495	0.019	0.0553	0.0867
•	•	•	•	500	0.0182	0.0528	0.0826

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