

MF52珠状测温型NTC热敏电阻器

MF52 PEARL-SHAPE PRECISION NTC THERMISTOR

产品简介 Introduction (俗称：“小黑头”)

MF52珠状测温型NTC热敏电阻器是小体积的环氧树脂封装型NTC热敏电阻器，根据使用范围的不同，已派生多种系列产品。
Mf52 Pearl-Shape Precision NTC Thermistor is ethoxyline resin-enveloped thermisitor in Small size which is made from new material and by new technique, so we have researched and developed several kinds of products, according to the different application fields.



应用范围 Appliaction

- 空调设备

○暖气设备

○电子体温计

○液位传感器

○汽车电子

○电子台历

○手机电池
- Air-condition Equipments

○Heating Apparatus

○Electric Thermometer

○Liquid Level Sensor

○Automobile Electricity

○Electric Table-board

○Battery of Mobile Telephone

特点 Characteristic

- 测试精度高

○体积小，反应速度快

○能长时间稳定工作

○互换性，一致性好

○规模化生产，性价比高
- High precision

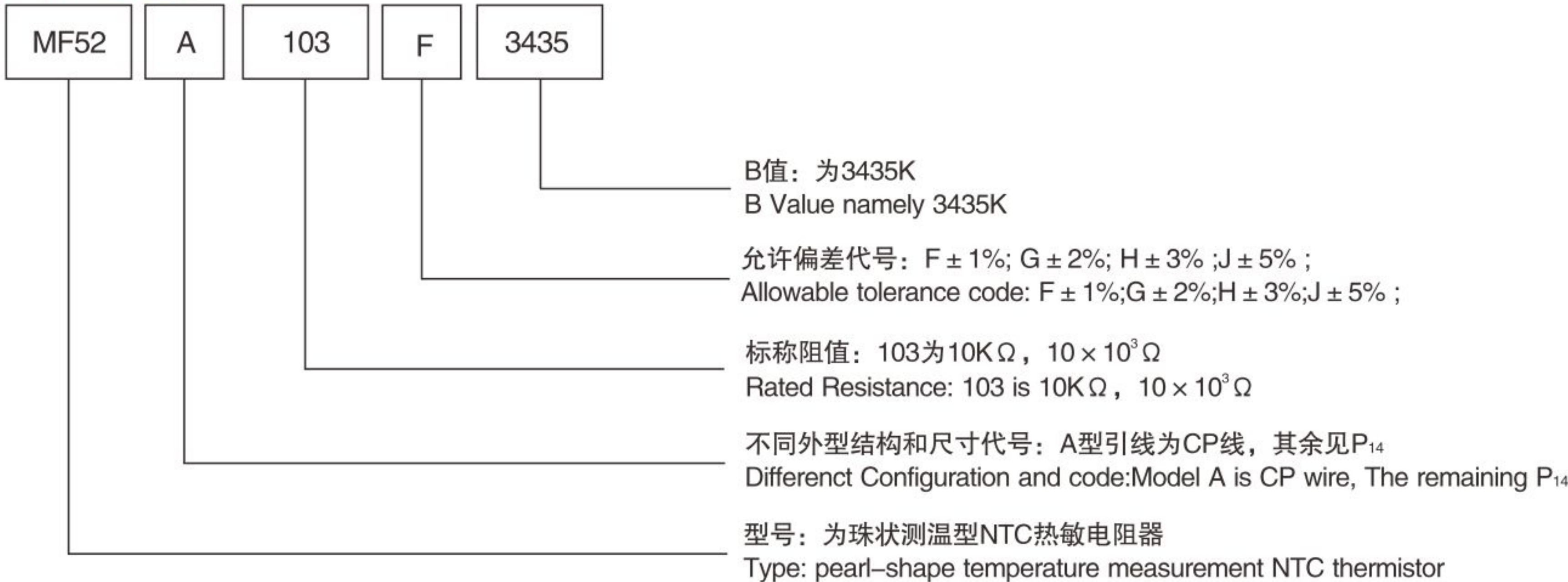
○Small size, fast response time

○Steady operating for long time

○Good coherence and interchangeability

○Scale production, high cost performance

产品型号说明 Specification



MF52电性能参数 MF52 Electronic Parameter Specification

表1

产品型号 Part NO.	标称阻值R ₂₅ Rated Resistance R ₂₅ (KΩ)	B值 (25/50℃) B Value (25/50℃) (K)	额定功率 Rated Power(mW)	耗散系数 Dissi. Coef. (mW/℃)	热时间常数 Thermal time Constant (s)	工作温度 Operating Temp. (℃)
MF52□□□3100	0.1 ~ 20	3100	≤50	≥2.0 静止空气中 In Still Air	≤15 静止空气中 In Still Air	-55 ~ +125℃
MF52□□□3270	0.2 ~ 20	3270				
MF52□□□3380	0.5 ~ 20	3380				
MF52□□□3435	0.5 ~ 50	3435				
MF52□□□3600	1 ~ 100	3600				
MF52□□□3950	5 ~ 100	3950				
MF52□□□3977	5 ~ 100	3977				
MF52□□□4000	5 ~ 100	4000				
MF52□□□4050	5 ~ 200	4050				
MF52□□□4150	10 ~ 250	4150				
MF52□□□4300	20 ~ 1000	4300				
MF52□□□4500	20 ~ 1000	4500				

注 Remark

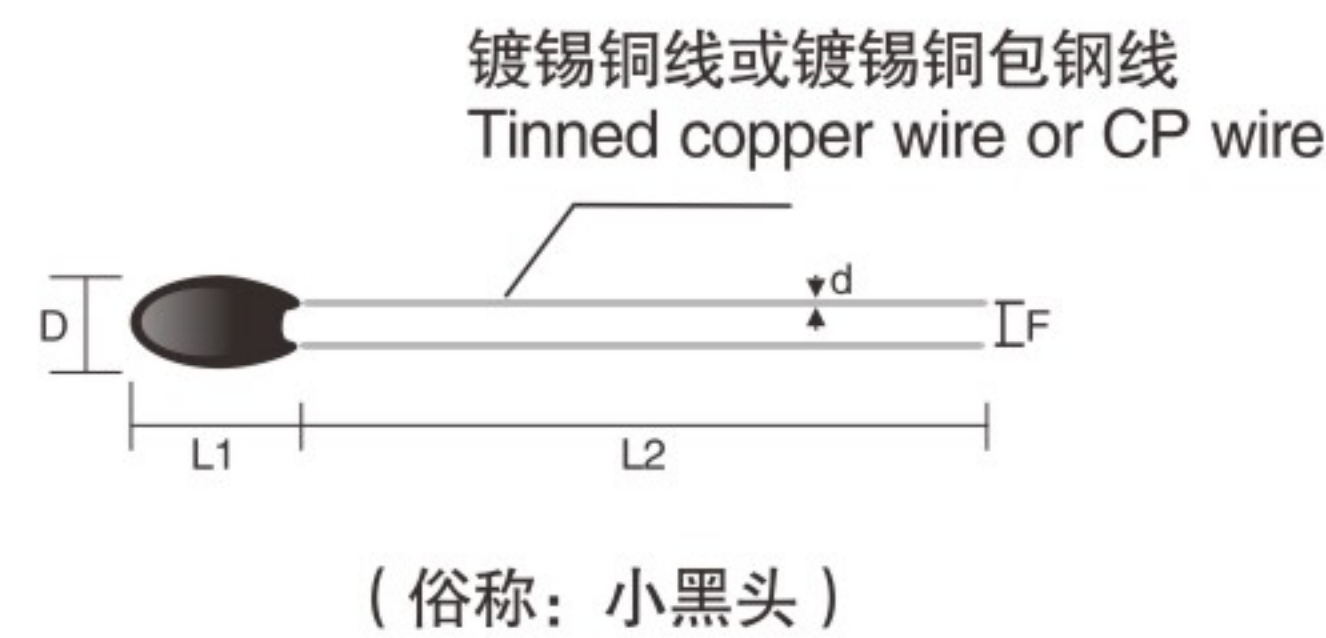
- 第一方框填不同外形结构代号。第二方框填标称电阻值；第三方框填标称电阻值的精度代号。
- B值（25/50℃）精度：对于标称电阻值精度为±1%的，B值对应精度为±1%，其余B值精度均为±2%。
- 除以上规格外，我公司还可根据用户特殊要求供货。
- The first pane fills whith code of different diamension. The second pane fills with RatedResisrnce, the third fills with its precision symbol.
- B value (25/50℃)error: the corresponding error is ± 1% for which the precision of therated resistance is ± 1%, others ls ± 2%.
- Besides, our corporation can supply products according to the demands of users.

注意事项 Notice

- 由于MF52系列体积较小，焊点小，引线两端不能承受过大拉力。
- 焊接时，请在距引线根部至少5mm处焊接，焊接时间尽量短，以免芯片受热冲击导致性能劣化。
- The two ends of the wire cannot endure too big pull because of the Small size and soldered spot in series of MF25.
- While soldering, please soldering at the distance of 5mm from the bottom of wrie at least and the period of sloding should be as short as possible.

MF52外形结构和尺寸 MF52 dimension of normal products:

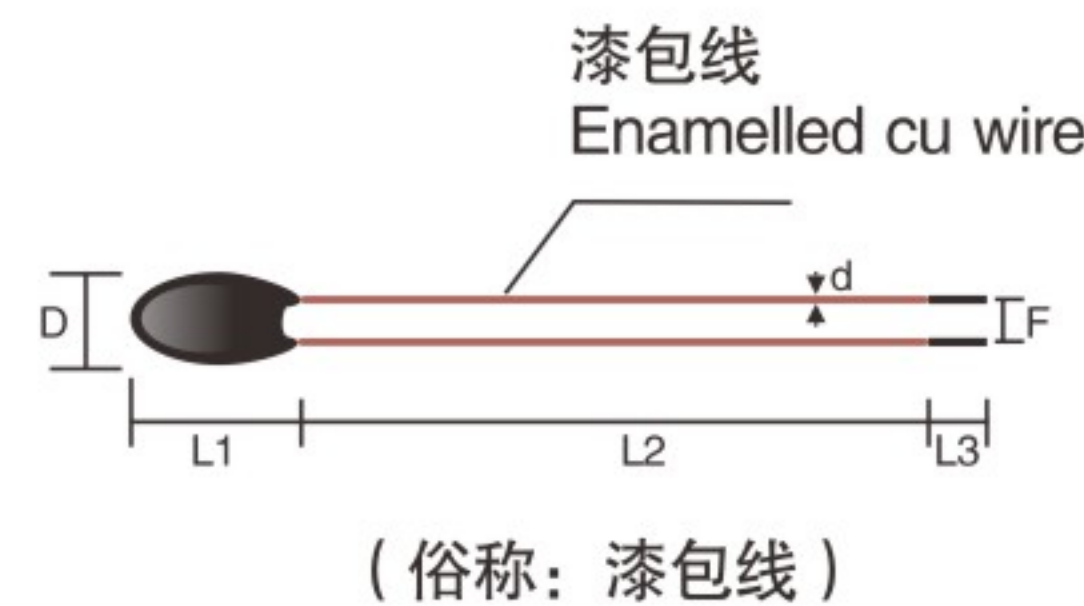
A型：引线为镀锡铜线或镀锡铜包钢线 Tinned copper wire or CP wire



常规尺寸表
Normal dimension table 单位Unit:mm

代号 Code	Dmax	L1max	L2min	d ± 0.05	F ± 0.5
A1	2.5	3.5	25	0.3	2.0
A2	3	4	25	0.45	2.5

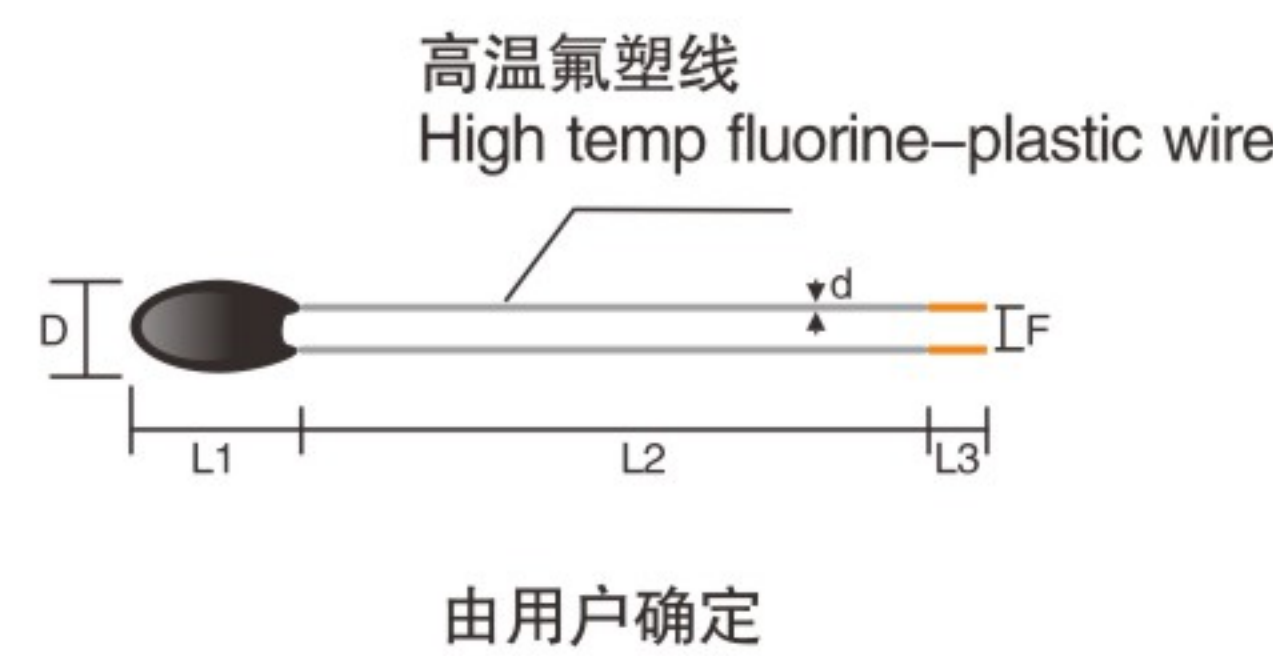
B型：引线为漆包线 Enamelled cu wire



常规尺寸表
Normal dimension table 单位Unit:mm

代号 Code	Dmax	L1max	L2min	L3 ± 1	d ± 0.06	F ± 0.5
B1	2	3.5	用户规定	3	0.2	2.0
B2	3	4	用户规定	3	0.3	2.5

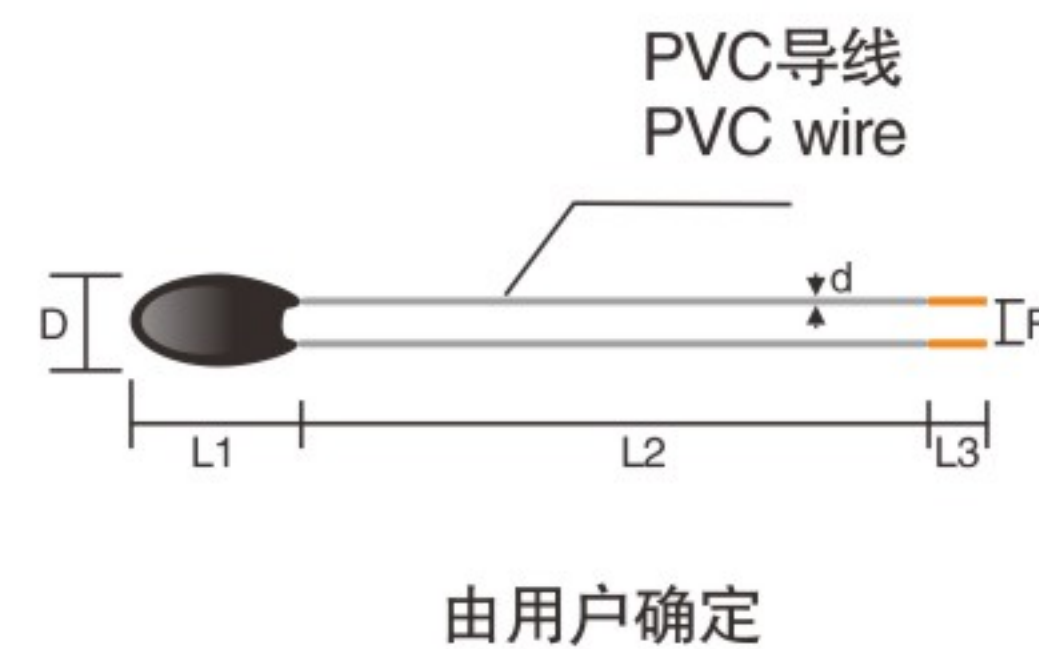
C型：引线为高温氟塑线 High temp fluorine-plastic wire



常规尺寸表
Normal dimension table 单位Unit:mm

代号 Code	Dmax	L1max	L2min	L3 ± 1	d ± 0.06	F ± 0.5
C1	3	3.5	用户规定	5	0.4	2.0
C2	4	4	用户规定	5	0.5	2.5

D型：引线为PVC导线 PVC wire



常规尺寸表
Normal dimension table 单位Unit:mm

代号 Code	Dmax	L1max	L2min	L3 ± 1	d ± 0.05	F ± 0.5
D1	3	3.5	用户规定	5	0.26	2.5
D2	4	4	用户规定	5	0.32	2.5

MF58玻壳测温型NTC热敏电阻器

MF58 PEARL-SHAPE PRECISION NTC THERMISTOR

产品简介 Introduction (俗称：“玻封管”)

采用陶瓷工艺与半导体相结合的工艺制作而成，为两端轴引出线玻璃封装结构。

It is made by the combinative technique of ceramics and semiconductor, is the axial glass encapsulated NTC thermistor.

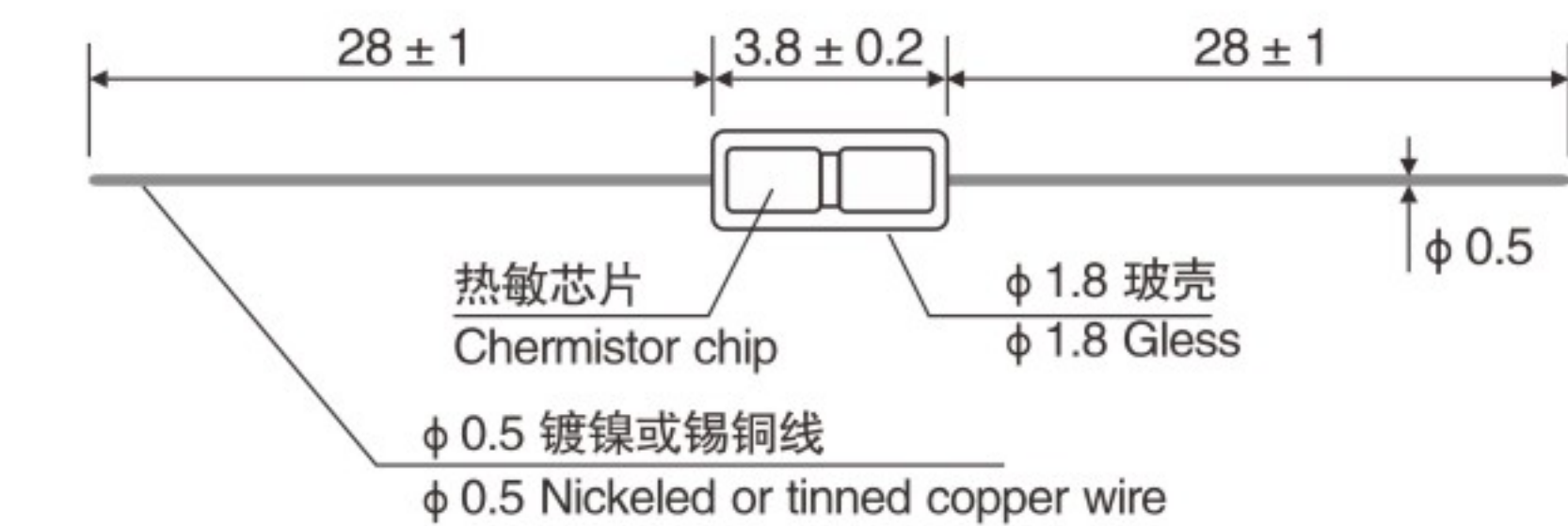
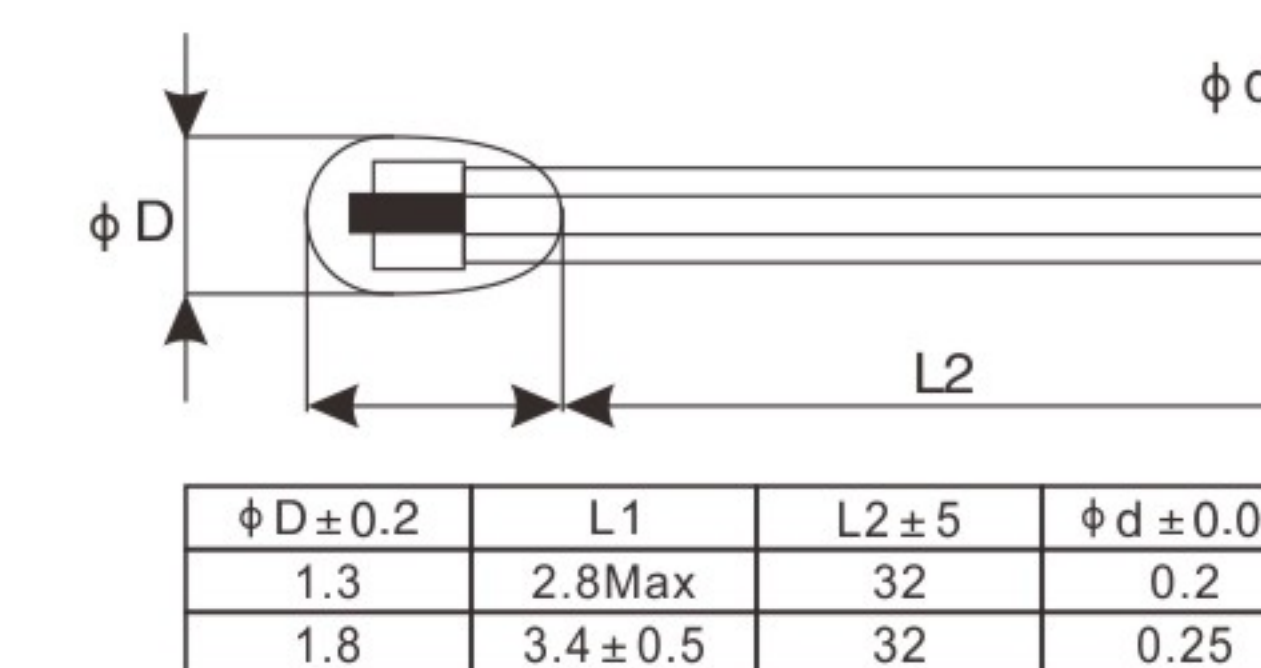


应用范围 Appliaction

- 家用电器（如空调机、微波炉、电风扇、电取暖炉等）的温度控制与温度检测
- 办公自动化设备（如复印机、打印机等）的温度检测或温度补偿
- 工业、医疗、环保、气象、食品加工设备的温度控制与检验
- 仪表线圈、集成电路、石英晶体振荡器和热电偶的温度补偿
- 液面指示和流量测量
- 手机电池
- Temperature control and examination of household electrical appliance(such as air-condition,microwave oven,fanner,electric heating and so on)
- Temperature examination and Lompensation of automatic work facilities(such as copycat,printer andso on).
- Temperature control and examination of industry,medical apparatus and instruments,environment protection,weather,foods machining equipments
- Indication of the liquid
- Battery of mobile telephone
- Temperature compensation of loops of instrument,integrate circuit,quartz crystal monofier and themocouple.

特点 Characteristic

- 稳定性好、可靠性高
- 阻值范围宽：0.1 ~ 1000K Ω
- 阻值精度高，互换性好
- 由于采用玻璃封装，可在高温和高湿等恶劣环境下使用
- 体积小、质量轻、结构坚固、便于自动化安装
- Good stability, high reliability
- Resistance range: 0.1 ~ 1000K Ω
- High resistance precision, good interchangeability
- Due to adoption of glass sealed, it can be used in severe environment, like high temperature, high humidity
- Small volume, light weight, firm structure, convenient installation



单位/Unit: mm

MF58 电性能参数 MF58 Electrical properties

参数和规格参见P36表1，MF58对应MF52各规格，MF58应用温度范围为-55~+200℃。

See Table 1 at P36 for reference, MF58 has the wider range operation temperature characteristic, MF58Application temperature range -55~+200℃.

NTC温度传感器阻温特性参考表（一）

RESISTANCE-TEMP. CHARACTERISTIC TABLE OF COMMON SPEC.

单位Unit: KΩ

R(KΩ) t(°C)	3	3	5	5	10	10	10	10
B _{25/50}	3380	3435	3270	3380	3380	3435	3470	3950
B _{25/85}	3435	3470	3320	3435	3435	3470	3530	3990

-40	70.749	74.483	106.390	117.915	235.831	248.277	256.536	401.860
-35	52.184	54.666	79.253	86.973	173.946	182.221	187.691	281.577
-30	38.975	40.636	59.757	64.958	129.917	135.452	139.097	200.204
-25	29.454	30.569	45.573	49.090	98.180	101.898	104.337	144.317
-20	22.507	23.257	35.130	37.511	75.022	77.523	79.157	105.385
-15	17.378	17.882	27.354	28.963	57.926	59.606	60.700	77.898
-10	13.550	13.887	21.503	22.584	45.168	46.290	47.019	58.246
-5	10.665	10.887	17.055	17.774	35.548	36.290	36.769	44.026
0	8.467	8.611	13.643	14.112	28.224	28.704	29.014	33.621
5	6.778	6.869	11.002	11.297	22.595	22.897	23.091	25.925
10	5.469	5.523	8.939	9.116	18.231	18.410	18.525	20.175
15	4.446	4.475	7.316	7.410	14.820	14.916	14.977	15.837
20	3.640	3.651	6.029	6.067	12.133	12.171	12.196	12.535
25	3.000	3.000	5.000	5.000	10.000	10.000	10.000	10.000
30	2.488	2.481	4.173	4.147	8.295	8.269	8.253	8.037
35	2.077	2.064	3.503	3.461	6.922	6.881	6.854	6.506
40	1.743	1.728	2.957	2.905	5.810	5.759	5.726	5.301
45	1.471	1.454	2.509	2.452	4.903	4.847	4.811	4.348
50	1.248	1.230	2.140	2.080	4.160	4.101	4.064	3.588
55	1.064	1.046	1.834	1.774	3.547	3.488	3.451	2.978
60	0.912	0.894	1.580	1.520	3.039	2.981	2.944	2.486
65	0.785	0.768	1.366	1.308	2.616	2.559	2.524	2.086
70	0.678	0.662	1.187	1.131	2.261	2.207	2.174	1.760
75	0.589	0.574	1.035	0.981	1.963	1.912	1.880	1.492
80	0.513	0.499	0.906	0.855	1.711	1.662	1.632	1.270
85	0.449	0.435	0.796	0.748	1.497	1.451	1.423	1.087
90	0.394	0.382	0.702	0.657	1.315	1.272	1.245	0.934
95	0.348	0.336	0.621	0.579	1.158	1.118	1.094	0.805
100	0.307	0.296	0.552	0.512	1.024	0.987	0.964	0.698
105	0.273	0.262	0.491	0.454	0.909	0.874	0.852	0.606
110	0.243	0.233	0.439	0.404	0.809	0.776	0.756	0.529
115	0.217	0.207	0.393	0.361	0.722	0.692	0.673	0.463
120	0.194	0.185	0.353	0.323	0.646	0.618	0.601	0.407

NTC温度传感器阻温特性参考表（二）

RESISTANCE-TEMP. CHARACTERISTIC TABLE OF COMMON SPEC.

单位Unit: KΩ

R(KΩ) t(°C)	50	50	50	100	100	100	500	500
B _{25/50}	3950	4000	4050	3950	4050	4300	4150	4300
B _{25/85}	3990	4050	4080	3990	4080	4410	4220	4410

-40								
-35								
-30								
-25	721.585	746.384	772.035					
-20	526.923	542.868	559.295					
-15	389.491	399.744	410.268					
-10	291.229	297.797	304.514					
-5	220.130	224.299	228.547					
0	168.103	170.703	173.343	336.206	346.687	374.340		
5	129.623	131.195	132.787	259.246	265.574	282.078		
10	100.873	101.773	102.681	201.746	205.362	214.690		
15	79.186	79.648	80.113	158.371	160.226	164.957	810.508	824.783
20	62.677	62.856	63.036	125.353	126.072	127.888	633.978	639.442
25	50.000	50.000	50.000	100.000	100.000	100.000	500.000	500.000
30	40.186	40.075	39.964	80.371	79.928	78.830	397.435	394.151
35	32.528	32.351	32.176	65.055	64.351	62.624	318.272	313.118
40	26.507	26.295	26.085	53.015	52.170	50.116	256.691	250.579
45	21.741	21.513	21.287	43.481	42.574	40.388	208.430	201.941
50	17.941	17.710	17.481	35.882	34.963	32.767	170.336	163.834
55	14.892	14.666	14.442	29.784	28.885	26.753	140.063	133.767
60	12.431	12.214	12.000	24.862	24.001	21.977	115.849	109.885
65	10.432	10.227	10.026	20.864	20.052	18.159	96.361	90.793
70	8.799	8.608	8.421	17.598	16.841	15.087	80.582	75.437
75	7.458	7.281	7.108	14.917	14.215	12.603	67.734	63.013
80	6.352	6.188	6.028	12.703	12.057	10.581	57.215	52.903
85	5.433	5.283	5.136	10.867	10.273	8.927	48.558	44.633
90	4.668	4.530	4.396	9.336	8.792	7.567	41.398	37.833
95	4.027	3.900	3.778	8.054	7.556	6.443	35.446	32.213
100	3.488	3.372	3.260	6.975	6.520	5.509	30.477	27.546
105	3.032	2.926	2.824	6.064	5.649	4.731	26.309	23.653
110	2.646	2.549	2.456	5.291	4.912	4.078	22.799	20.391
115	2.317	2.228	2.143	4.633	4.287	3.529	19.830	17.646
120	2.035	1.955	1.877	4.071	3.754	3.065	17.309	15.327