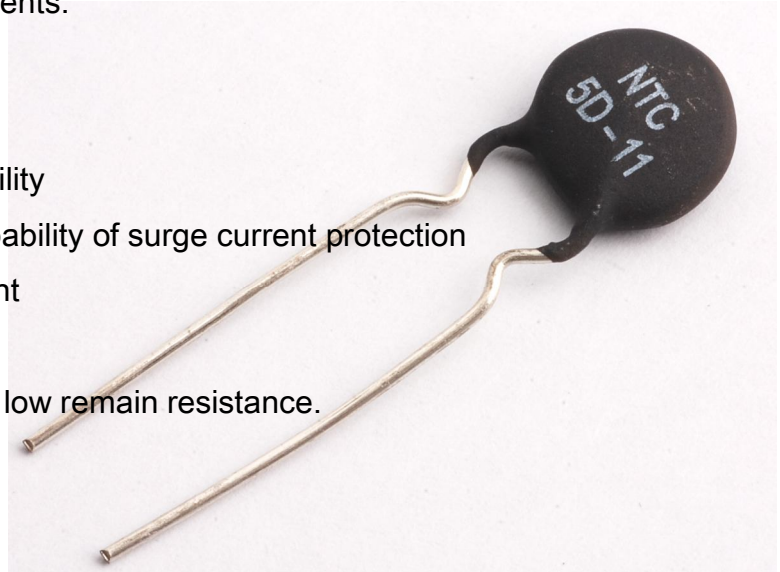


## Introduction:

NTC (Negative temperature coefficient) thermistor is a semiconductor made from metallic oxides. It exhibits an electrical resistance that has a very predictable change with temperature. The resistance varies significantly with temperature, more so than in standard resistors. They are extremely sensitive to temperature change, very accurate and interchangeable. They have a wide temperature envelope and can be hermetically sealed for use in humid environments.

## Features:

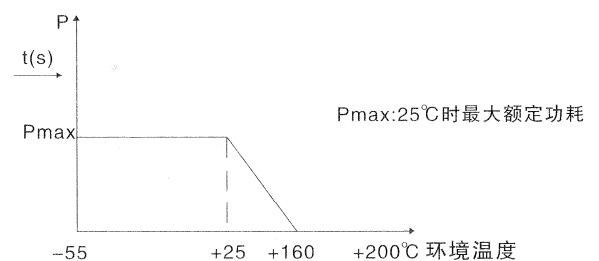
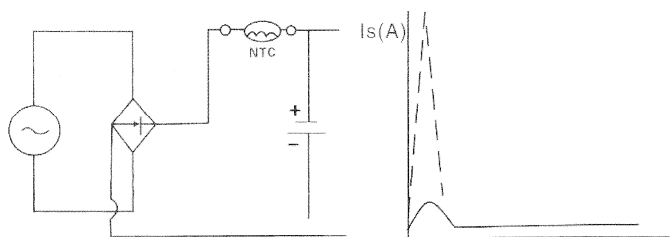
- \* Longevity of service, high reliability
- \* Small size, powerful, strong capability of surge current protection
- \* Instant response to surge current
- \* Wide operation range
- \* Big material constant (B value), low remain resistance.



## Application:

Thermistors are widely used as

- \* Inrush current limiters
- \* Temperature sensors
- \* Self-resetting overcurrent protectors
- \* Self regulating heating elements
- \* Conversion power, switch mode power supply, UPS power protection
- \* Energy saving lights, electronic ballast filament protection
- \* Electronic circuit, power supply circuit protection



功率型热敏电阻负荷——温度特性线

# NTC THERMISTOR



## How to select:

1. Maximum operating current > Actual operating current in the power loop
2. Rated zero power resistance at 25°C

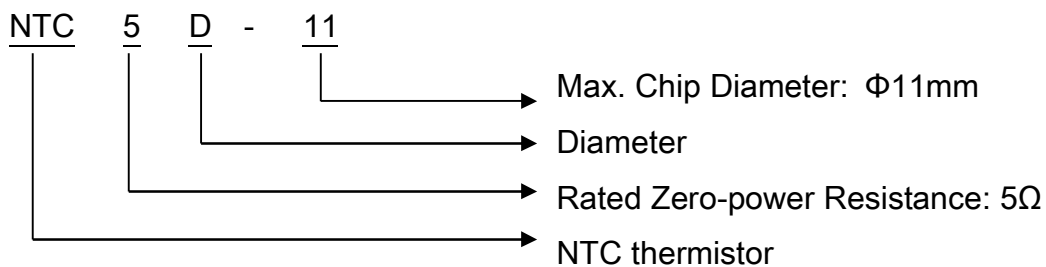
$$R \geq \frac{\sqrt{2} E}{I_m}$$

Of which, E: loop voltage, I<sub>m</sub>: Surge current

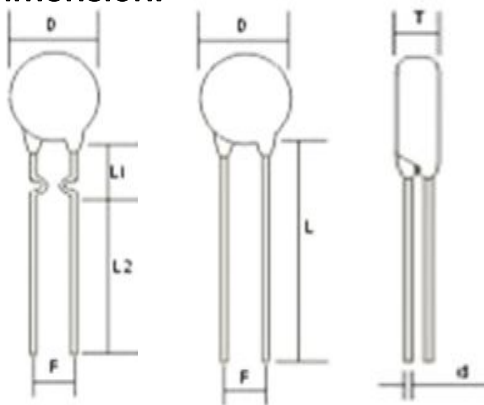
For conversion power, reversion power, switch power, UPS power, I<sub>m</sub> = 100 times operating current.

For filament, heater, I<sub>m</sub> = 30 times operating current.

## Marking:



## Dimension:



規格	尺寸 (mm)						
Φ	D max.	T max.	d ± 0.5	F ± 1	L min.	L <sub>1</sub> ± 1.5	L <sub>2</sub> min.
5	7	4.5	0.43/0.55	2.5/5	25	8/5	15.5/18.5
7	9	5	0.55	5	25	8/5	15.5/18.5
9	11	6	0.55/0.75	5/7.5	25	8/5	15.5/18.5
11	13	6.5	0.55/0.75	5/7.5	25	8/5	15.5/18.5
13	15.5	7	0.75	7.5	25	8/5	15.5/18.5
15	17.5	7	0.75	7.5	25	8/5	15.5/18.5
20	22.5	7	1	10	25	/	15.5/18.5
25	27.5	8	1	10	25	/	15.5/18.5

# NTC THERMISTOR



## Specification:

Parameter Dia (Φ)	Zero Power Resistance	Max. Steady State Current	Max. Current Remain Resistance	B <sub>25/85</sub>	Thermal Time Constant	Thermal Dissipation Constant	Operating Temperature
	R25 (Ω)	(A)	(mΩ)	(K)	(s)	(mW/°C)	(°C)
5D-5	5	1	0.5841	2700	<18	>6	-40 ~ 150
10D-5	10	0.7	1.039	2700			
15D-5	15	0.6	1.53	2800			
20D-5	20	0.6	2.02	2800			
22D-5	22	0.6	2.06	2800			
30D-5	30	0.5	2.227	2800			
33D-5	33	0.5	2.436	2800			
50D-5	50	0.4	2.653	3000			
60D-5	60	0.3	2.753	3000			
3D-7	3	3	0.206	2700	<30	>9	-40~+150
5D-7	5	2	0.2864	2700			
8D-7	8	1	0.7353	2800			
10D-7	10	1	0.7885	2800			
12D-7	12	0.7	1.18	2800			
16D-7	16	0.7	1.56	3000			
20D-7	20	0.6	1.9877	3000			
22D-7	22	0.6	1.95	3000			
30D-7	30	0.5	3.7059	3000			
33D-7	33	0.2	3.8878	3000			
50D-7	50	0.2	6.465	3000			
2.5D-9	2.5	4	0.1397	2700	<35	>11	-40~+170
3D-9	3	4	0.1456	2700			
4D-9	4	3	0.2541	2700			
5D-9	5	3	0.2641	2700			
6D-9	6	2	0.3582	2700			
7D-9	7	2	0.3265	2800			
8D-9	8	2	0.3731	2800			
10D-9	10	2	0.398	2800			
12D-9	12	1	0.989	2800			
16D-9	16	1	1.041	3000			
20D-9	20	1	1.173	3000			
22D-9	22	1	1.2346	3000			
30D-9	30	1	1.32	3000			
33D-9	33	1	1.431	3000			
50D-9	50	1	1.48	3100			
60D-9	60	0.8	1.641	3100			
80D-9	80	0.8	2.187	3200			
120D-9	120	0.8	3.281	3200			
200D-9	220	0.5	5.469	3200			

# NTC THERMISTOR



## Specification:

Parameter Dia (Φ)	Zero Power Resistance	Max. Steady State	Max. Current Remain Resistance	B <sub>25/85</sub>	Thermal Time Constant	Thermal Dissipation Constant	Operating Temperature
	R25 (Ω)	(A)	(mΩ)	(K)	(s)	(mW/°C)	(°C)
1D-11	1	5	0.1205	2600	< 55	> 13	-40~+170
1.5D-11	1.5	5	0.126	2600			
2.5D-11	2.5	5	0.126	2700			
3D-11	3	5	0.1263	2700			
4D-11	4	4	0.2005	2700			
5D-11	5	4	0.2052	2700			
6D-11	6	3	0.2977	2700			
7D-11	7	3	0.2824	2800			
8D-11	8	3	0.2591	2800			
10D-11	10	3	0.2676	2800			
12D-11	12	2	0.3467	2800			
15D-11	15	2	0.485	3000			
16D-11	16	2	0.5	3000			
20D-11	20	2	0.59	3000			
22D-11	22	2	0.5903	3000			
25D-11	25	1.5	0.602	3000			
30D-11	30	1.5	0.722	3000			
33D-11	33	1.5	0.795	3000			
47D-11	47	2	1.165	3200			
50D-11	50	2	1.241	3200			
60D-11	60	1	1.489	3200			
80D-11	80	1	1.986	3200			
120D-11	120	0.8	2.979	3200			
1.3D-13	1.3	7	0.0889	2700	< 70	> 13	-40~+200
1.5D-13	1.5	7	0.0895	2700			
2.5D-13	2.5	6	0.1079	2700			
3D-13	3	6	0.145	2700			
4D-13	4	5	0.1456	2700			
4.7D-13	4.7	5	0.1469	2800			
5D-13	5	5	0.1497	2800			
6D-13	6	4	0.2111	2800			
7D-13	7	4	0.232	3000			
8D-13	8	4	0.2746	3000			
10D-13	10	4	0.2792	3000			
12D-13	12	3	0.4833	3000			
15D-13	15	3	0.4867	3100			
16D-13	16	3	0.4545	3100			
18D-13	18	3	0.511	3200			
20D-13	20	3	0.568	3200			
22D-13	22	3	0.625	3200			
25D-13	25	2	0.581	3200			
30D-13	30	2	0.696	3200			
33D-13	33	2	0.765	3200			
47D-13	47	2	1.091	3200			
50D-13	50	2	1.161	3200			
60D-13	60	2	1.392	3200			
80D-13	80	1.5	1.856	3200			
120D-13	120	1	2.785	3200			

# NTC THERMISTOR



## Specification:

Parameter Dia (Φ)	Zero Power Resistance	Max. Steady State Current	Max. Current Remain Resistance	B 25/85	Thermal Time Constant	Thermal Dissipation Constant	Operating Temperature
	R 25 (Ω)	(A)	(m Ω)	(K)	(s)	(m W / °C)	(°C)
1.3D-15	1.3	8	0.0825	2700	< 90	> 16	-40~+200
1.5D-15	1.5	8	0.0843	2700			
2.5D-15	2.5	7	0.1353	2700			
3D-15	3	7	0.1363	2700			
4D-15	4	6	0.1985	2700			
5D-15	5	6	0.1268	2800			
6D-15	6	5	0.1882	2800			
7D-15	7	5	0.1909	3000			
8D-15	8	5	0.2011	3000			
10D-15	10	5	0.2087	3000			
12D-15	12	4	0.2672	3000			
15D-15	15	4	0.305	3200			
16D-15	16	4	0.306	3200			
18D-15	18	4	0.3375	3200			
20D-15	20	4	0.3466	3200			
22D-15	22	4	0.3812	3200			
25D-15	25	3	0.433	3200			
30D-15	30	3	0.519	3200			
33D-15	33	3	0.571	3200			
40D-15	40	3	0.587	3200			
47D-15	47	3	0.69	3200			
50D-15	50	3	0.734	3200			
60D-15	60	3	0.881	3200			
80D-15	80	2	1.175	3200			
120D-15	120	1.5	1.763	3200			
0.7D-20	0.7	11	0.1045	2700	< 90	> 16	-40~+200
1D-20	1	10	0.1105	2700			
1.3D-20	1.3	9	0.1312	2700			
2.2D-20	2.2	8	0.1292	2800			
2.5D-20	2.5	8	0.1469	2800			
3D-20	3	8	0.1519	2800			
5D-20	5	7	0.1576	3000			
6D-20	6	6	0.1891	3000			
8D-20	8	6	0.1981	3000			
10D-20	10	6	0.21	3000			
12D-20	12	5	0.2133	3200			
16D-20	16	5	0.2216	3200			
20D-20	20	4	0.277	3200			
30D-20	30	4	0.4157	3200			
33D-20	33	4	0.4495	3200			
60D-20	60	4	0.8172	3200			
0.7D-25	0.7	13	0.0581	2700	< 160	> 27	-40~+200
1D-25	1	11	0.0831	2700			
1.3D-25	1.3	10	0.1078	2700			
1.5D-25	1.5	10	0.1246	2700			
2.5D-25	2.5	9	0.135	2800			
3D-25	3	9	0.162	2800			
5D-25	5	8	0.153	3000			
8D-25	8	7	0.2075	3000			
10D-25	10	7	0.2593	3300			
12D-25	12	6	0.311	3300			
16D-25	16	6	0.4148	3300			