



POWER THERMISTOR

FOR THE REDUCTION OF INRUSH CURRENT

A power thermistor is a type of NTC thermistor used for the reduction of large inrush currents. These large inrush currents are typically caused by charging of filter capacitors in switching power supplies.

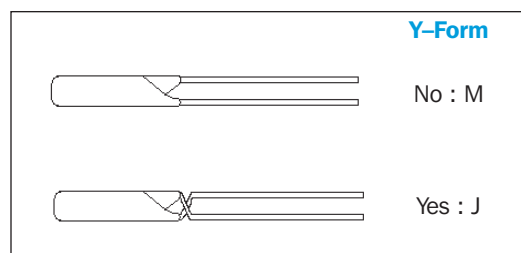
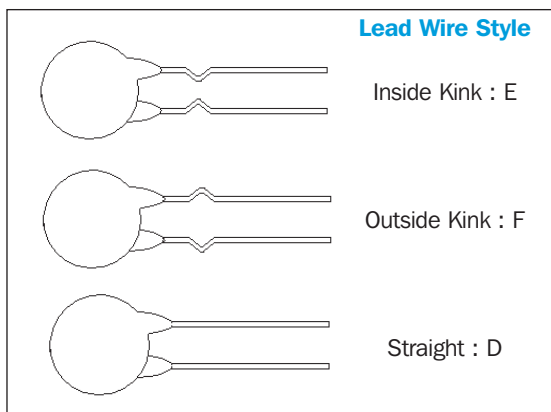
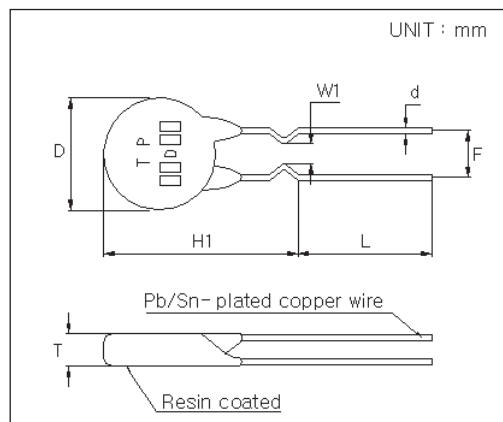
FEATURES

- Low steady resistance and accompanying power loss
- Low cost, automated manufacturing
- Small size
- Operating temperature - 40°C to 170°C

APPLICATIONS

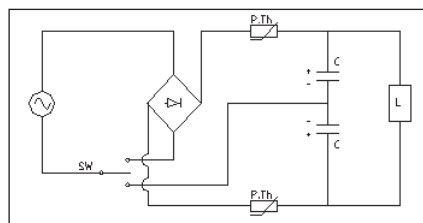
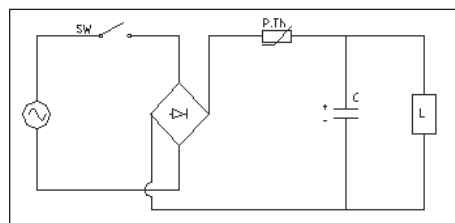
Control of the inrush current in switching power supplies, fluorescent lamp, inverters, motors, etc.

STANDARD DIMENSIONS



Parts	D	T(max.)	L	d	F	H1(±2.5)	W1(min.)
7	7.0±1.5	5.2	18.5	0.6	5.0	15.5	1.5
9	9.0±1.5	6.0	18.5	0.6	5.0	17.0	1.5
11	11.0±1.5	6.5	18.5	0.8	7.5	19.5	2.0
13	13.5±1.5	8.0	18.5	0.8	7.5	21.5	2.0
15	15.0±1.5	9.0	18.5	0.8	7.5	23.5	2.0
18	18.0±1.5	9.0	18.5	1.0	10.0	27.0	3.0

APPLICATION CIRCUITS



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SPECIFICATIONS

Parts	Type	Normal no load resistance (Ω)	Normal β constant (K)	Dissipation factor (Mw/C)	Max. Permissible Current at 25°C	Time Constant (sec)
7 Φ	TP7D7	7	3000	9.8	2.4	70
	TP8D7	8	3000	10.0	2.3	70
	TP10D7	10	3000	10.3	2.0	80
	TP16D7	16	3000	10.5	1.6	100
	TP22D7	22	3100	9.5	1.4	120
9 Φ	TP5D9	5	3000	11.0	3.0	110
	TP8D9	8	3000	14.2	2.7	120
	TP10D9	10	3000	12.9	2.3	130
	TP16D9	16	3100	10.2	1.7	160
11 Φ	TP4R7D11	4.7	3000	15.0	3.7	90
	TP5D11	5	3000	15.0	3.3	130
	TP8D11	8	3000	17.6	2.6	160
	TP10D11	10	3100	17.4	2.4	170
13 Φ	TP4R7D13	4.7	3000	15.0	4.3	110
	TP5D13	5	3000	15.0	3.4	125
	TP8D13	8	3100	17.0	2.7	160
	TP10D13	10	3100	13.8	2.5	180
15 Φ	TP3D15	3	3000	16.5	4.0	165
	TP5D15	5	3100	17.7	3.7	170
	TP8D15	8	3100	21.7	3.1	180
	TP10D15	10	3100	19.9	2.9	200
18 Φ	TP4D18	4	3000	22.2	4.1	170
	TP5D18	5	3000	24.0	3.8	180
	TP8D18	8	3100	26.8	3.1	220
	TP10D18	10	3100	27.8	2.8	260

* The resistance tolerance is $\pm 15\%$ for standard devices.

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* The β constant is determined by the equation :

$$\beta = 1779.7 \ln (R_{25}/R_{85})$$

R₂₅ and R₈₅ represent the thermistor resistance at 25°C and 85°C respectively.

* For non-standard devices consult Thermometrics Global Business.

CODE DESIGNATION

T	P	8	D	1	3	L	K	B	E	S	M	N	R
1	2	3	4	5	6	7	8	9	10	11			
1- Shape : Power Thermistor													
2- Resistance at 25°C : 8 =8 Ω , 4R7=4.7 Ω													
3- Dia. Size: 7:7, 9:9,...18:18													
4/5- Resistance & B constant tolerance : K: $\pm 10\%$,L: $\pm 15\%$													
6- Lead wire Center to Center: (F): A:5.0mm, B: 7.5mm, C:10.0mm													
7- Lead wire style :D: Straight, E: In Kink, F: Out Kink													
8- Lead wire Length : G :5mm, H:7mm, I : 9mm, ... S: Other Dim.													
9- Y-Form: J: Yes, M: No													
10- TMK Part # Marking : N: No, O: Yes													
11- Packing Form : Taping (P: 15 pitch, Q:30 pitch), Others (R:Bulk, S: Paper Pad, T: Element)													

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