

SMD PTC Thermistor

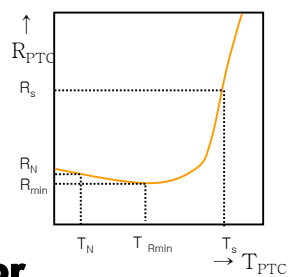
(ECPH Series)



1 What is PTC Thermistor ?

PTC Thermistor is Positive Temperature Coefficient of Thermally Sensitive Resistor. It's resistance value rises sharply with increasing temperature has been exceed. This feature makes it use many applications of electronic devices as resettable fuse against current overload.

- $R_{PTC} = f(T_{PTC})$
- R_N Rated PTC resistance (resistance value at T_N)
- R_{min} Minimum resistance (resistance value at T_{Rmin})
- T_{Rmin} Temperature at R_{min} (α becomes positive)
- R_s Sensing resistance
 $R_s = 10 \cdot R_{min}$ (resistance value at T_s)
- T_s Sensing Temperature (Resistance rises sharply)

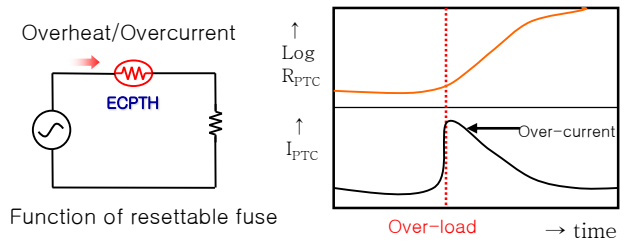


2 Feature of PTC Thermistor

- Suitable for miniaturizing circuits due to small size SMD type
- Fast response for overheating sensing with an accuracy of $\pm 5^\circ C$
- Contact noise & trouble free due to surface mounted

3 Applications of PTC Thermistor

- Overheat protection for power transistor and power-ICs
- Inverter circuit for LCD backlight
- AC adapter of Net-book and Note-book PC
- DC/DC converter in LCD driving circuit
- Light driving circuit in LED application



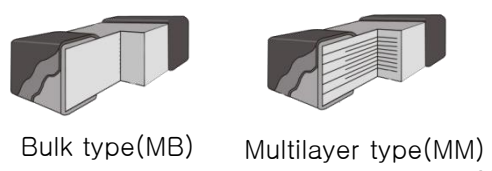
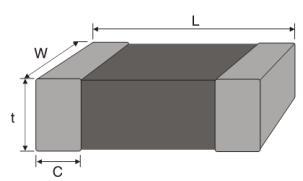
4 Order method (standard) :

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②
③
④
⑤
⑥
⑦

① Series	SMD PTC Thermistor ECPH Series
② Type	G : Over current Protection , F : Over heat Sensing
③ Dimensions	1005, 1608, 2012, 3225
④ Resistance	221 = 220 Ω [= 22 \times 10 ¹ Ω]
⑤ R Tolerance	K : $\pm 10\%$, M : $\pm 20\%$, H : $\pm 25\%$, N : $\pm 30\%$, P : $\pm 50\%$
⑥ Temperature	G type : Curie temperature [$T_c : R@25^\circ C \times 2$] F type : Sensing temperature [$T_s : R@25^\circ C \times 10$]
⑦ Packing	T : Paper carrier Tape & Plastic Reel , B : Bulk

5 Size & Dimension

Unit : mm



Type	L	W	t	C
1005	1.00 \pm 0.05	0.50 \pm 0.05	0.50 \pm 0.05	0.25 \pm 0.10
1608	1.60 \pm 0.05	0.80 \pm 0.10	0.80 \pm 0.10	0.40 \pm 0.20
2012	2.00 \pm 0.05	1.25 \pm 0.20	0.80 \pm 0.10	0.40 \pm 0.20
* 3216	3.20 \pm 0.05	1.60 \pm 0.20	1.15 \pm 0.30	0.60 \pm 0.20
* 3225	3.20 \pm 0.05	2.50 \pm 0.20	1.15 \pm 0.30	0.60 \pm 0.20
* 4532	4.50 \pm 0.05	3.20 \pm 0.20	1.15 \pm 0.30	0.60 \pm 0.20

6 ECPTH Series

NO	Size [mm]	Electrical specifications				Part No.
		R _{25C} [Ω]	ΔR[%]	Tc(°C)	Ts(°C)	
1*	1005	10kΩ	50	-	at. 4.7MΩ[at130±5 °C]	ECPTHF 1005 103P 130T
2	1608	220	30	75±5	-	ECPTHG 1608 221N 75T
3	1608	470	30	75±5	-	ECPTHG 1608 471N 75T
4	1608	470	50	-	75±5	ECPTHF 1608 471P 75T
5	1608	470	50	-	85±5	ECPTHF 1608 471P 85T
6	1608	470	50	-	95±5	ECPTHF 1608 471P 95T
7	1608	470	50	-	105±5	ECPTHF 1608 471P 105T
8	1608	470	50	-	115±5	ECPTHF 1608 471P 115T
9	1608	470	50	-	125±5	ECPTHF 1608 471P 125T
10	1608	470	50	-	135±5	ECPTHF 1608 471P 135T
11*	1608	10kΩ	50	-	at. 4.7MΩ[at130±5 °C]	ECPTHF 1608 103P 130T
12	2012	220	30	75±5	-	ECPTHG 2012 221N 75T
13	2012	470	30	75±5	-	ECPTHG 2012 471N 75T
14	2012	470	50	-	75±5	ECPTHF 2012 471P 75T
15	2012	470	50	-	85±5	ECPTHF 2012 471P 85T
16	2012	470	50	-	95±5	ECPTHF 2012 471P 95T
17	2012	470	50	-	105±5	ECPTHF 2012 471P 105T
18	2012	470	50	-	115±5	ECPTHF 2012 471P 115T
19	2012	470	50	-	125±5	ECPTHF 2012 471P 125T
20	2012	470	50	-	135±5	ECPTHF 2012 471P 135T
21*	2012	10kΩ	50	-	at. 4.7MΩ[at130±5 °C]	ECPTHF 2012 103P 130T
22	3225	55	30	120±5	-	ECPTHG 3225 550N 120T

* Another specifications are available on request.