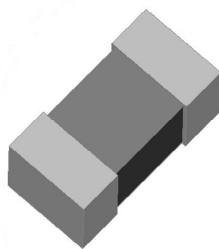


PTxx

Surface mount PTC thermistor



Product features

- Highly reliable monolithic structure, ideal for high density SMT installation
- Ideal for overheat sensing applications
- 0603 (1608 metric) and 0805 (2012 metric) surface mount package
- Superior heat resistance
- Excellent thermal response
- Moisture sensitivity level (MSL): 1

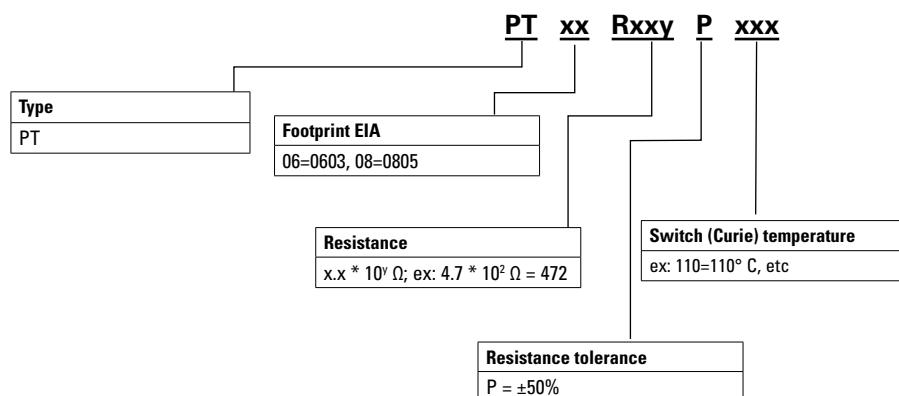
Applications

- Overheat sensing
- Industrial process control
- Commercial appliances
- Battery, supercapacitor and energy storage systems
- Uninterruptible power supplies
- Consumer appliances
- Medical devices
- Heating, ventilation and air conditioning, refrigeration (HVACR)
- Food service equipment
- IoT

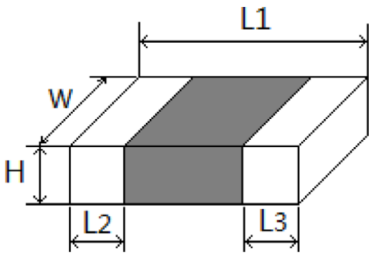
Environmental compliance and general specifications



Table 1. Part numbering



Mechanical parameters- mm [inches]



Recommended PCB layout

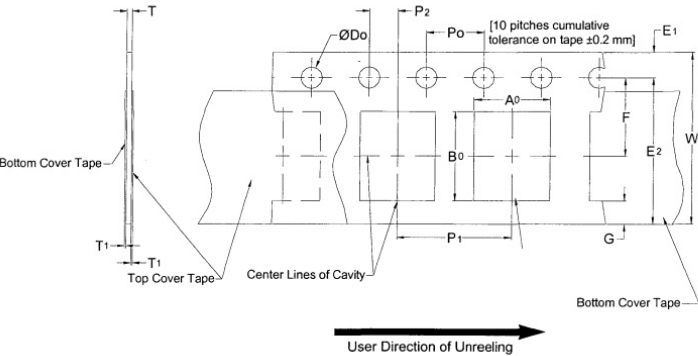


Size	L1	W	H	L2&L3	A	B	C
1608 [0603]	1.6 ± 0.15 [0.063 ± 0.006]	0.8 ± 0.15 [0.031 ± 0.006]	0.8 ± 0.15 [0.031 ± 0.006]	0.35 ± 0.15 [0.014 ± 0.006]	0.60 ~ 0.80	0.60 ~ 0.80	0.60 ~ 0.80
2012 [0805]	2.0 ± 0.20 [0.079 ± 0.008]	1.25 ± 0.15 [0.049 ± 0.006]	0.8 ± 0.15 [0.031 ± 0.006]	0.45 ± 0.2 [0.018 ± 0.008]	1.0 ~ 1.1	0.60 ~ 0.80	1.0 ~ 1.2

Packaging information- mm

Supplied in tape and reel on a 7.0" diameter reel (EIA-481 compliant)

Size	Quantity
0603	4K
0805	4K



Dimension	0603	0805
E1	1.75±0.1	1.75±0.1
F	3.5±0.05	3.5±0.05
P2	2.0±0.05	2.0±0.05
D0	1.5±0.1	1.5±0.1
P0	4.0±0.1	4.0±0.1
W	8.0±0.3	8.0±0.3
P1	4.0±0.1	4.0±0.1
A0	1.0±0.2	1.4±0.2
B0	1.8±0.2	2.2±0.2
T	1.1max	1.1max

Electrical specifications

Part number	Resistance (Ω)	Curie temperature (°C)	Sensing temperature (4.7 kΩ) (°C)	Sensing temperature (47 kΩ) (°C)	Maximum voltage (Vdc)	Operating temperature (°C)
PT06R472P50	470±50%	50	65±5	80±7	32	-20 to +90 °C
PT06R472P60	470±50%	60	75±5	90±7	32	-20 to +100 °C
PT06R472P70	470±50%	70	85±5	100±7	32	-20 to +110 °C
PT06R472P80	470±50%	80	95±5	110±7	32	-20 to +120 °C
PT06R472P90	470±50%	90	105±5	120±7	32	-20 to +130 °C
PT06R472P100	470±50%	100	115±5	130±7	32	-20 to +140 °C
PT06R472P110	470±50%	110	125±5	140±7	32	-20 to +150 °C
PT06R472P120	470±50%	120	135±5	150±7	32	-20 to +160 °C
PT08R472P50	470±50%	50	65±5	80±7	32	-20 to +90 °C
PT08R472P60	470±50%	60	75±5	90±7	32	-20 to +100 °C
PT08R472P70	470±50%	70	85±5	100±7	32	-20 to +110 °C
PT08R472P80	470±50%	80	95±5	110±7	32	-20 to +120 °C
PT08R472P90	470±50%	90	105±5	120±7	32	-20 to +130 °C
PT08R472P100	470±50%	100	115±5	130±7	32	-20 to +140 °C
PT08R472P110	470±50%	110	125±5	140±7	32	-20 to +150 °C
PT08R472P120	470±50%	120	135±5	150±7	32	-20 to +160 °C

Solder reflow profile

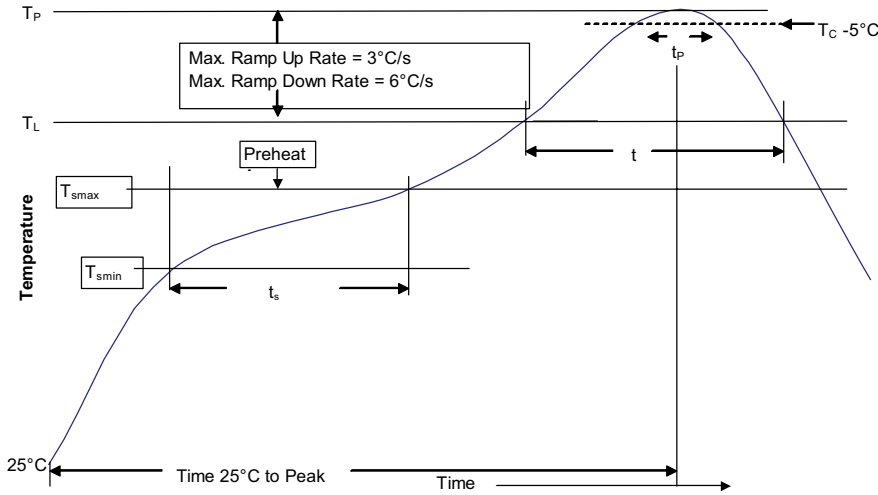


Table 1 - Standard SnPb solder (T_c)

Package thickness	Volume mm ³ <350	Volume mm ³ ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2 - Lead (Pb) free solder (T_c)

Package thickness	Volume mm ³ <350	Volume mm ³ 350 - 2000	Volume mm ³ >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 – 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Reference J-STD-020

Profile feature	Standard SnPb solder	Lead (Pb) free solder
Preheat and soak		
• Temperature min. (T_{smin})	100 °C	150 °C
• Temperature max. (T_{smax})	150 °C	200 °C
• Time (T_{smin} to T_{smax}) (t_s)	60-120 seconds	60-120 seconds
Ramp up rate T_L to T_p	3 °C/ second max.	3 °C/ second max.
Liquidous temperature (T_L)	183 °C	217 °C
Time (t_L) maintained above T_L	60-150 seconds	60-150 seconds
Peak package body temperature (T_p)*	Table 1	Table 2
Time (t_p)* within 5 °C of the specified classification temperature (T_c)	20 seconds*	30 seconds*
Ramp-down rate (T_p to T_L)	6 °C/ second max.	6 °C/ second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Manual solder

Soldering iron power 30 W max., pre-heating: +150°C/60 sec, soldering tip temperature: +350 °C max for 3 sec max.1 time solder iron max. Generally manual soldering is not recommended.

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