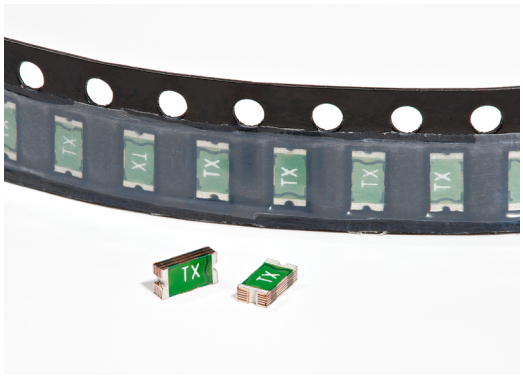
PTS1206

6-60 Volt DC surface mount resettable PTC fuses



Product features

- Positive Temperature Coefficient (PTC)
- SMT resettable fuse
- Low resistance
- Fast time-to-trip
- Current range from 0.05A to 2.0A
- 1206 (3216 metric) compact footprint

Applications

- USB peripherals
- Plug and play protection for motherboards and peripherals
- Power tools
- Battery and port protection for mobile/smart phones
- Game console port protection
- Set-top-boxes
- Tablets, notebooks, netbooks, laptops and desktops
- Rechargeable battery packs
- Digital cameras
- Appliances and white goods
- Consumer electronics

Agency information

- cURus Recognition file number: E343021
- TUV: R50192872

Powering Business Worldwide

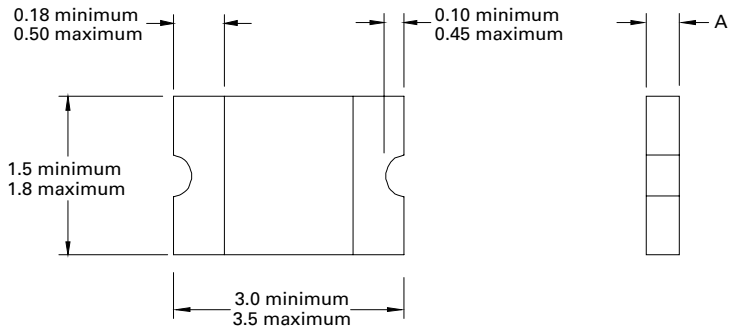
PTS1206
6-60 Volt DC surface mount resettable PTC fuses

Product specifications

Part Number[7]	Vmax[1] (V_{dc})	Imax[2] (A)	Ihold[3] (A)	Itrip[4] (A)	Pd[5] typical (W)	Time to trip (maximum) (A)	Time to trip (maximum) (seconds)	Resistance[6] Initial (R_i) minimum (Ω)	Resistance[6] Post trip (R_1) maximum (Ω)	Part marking	Agency information cURus	Agency information TUV
PTS120660V005	60	100	0.05	0.15	0.4	0.25	1.5	3.6	50	TH	x	x
PTS120660V010	60	100	0.10	0.25	0.4	0.5	1.0	1.6	15	TY	x	x
PTS120630V012	30	100	0.12	0.29	0.5	1	0.2	1.4	6	TJ	x	x
PTS120630V016	30	100	0.16	0.37	0.5	1	0.3	1.1	4.5	TK	x	x
PTS120624V020	24	100	0.20	0.42	0.6	8	0.1	0.65	2.6	TL	x	x
PTS120616V025	16	100	0.25	0.50	0.6	8	0.08	0.55	2.3	TN	x	x
PTS120616V035	16	100	0.35	0.75	0.6	8	0.1	0.3	1.2	TP	x	x
PTS12066V050	6	100	0.50	1.0	0.6	8	0.1	0.15	0.7	TQ	x	x
PTS120615V050	15	100	0.50	1.0	0.6	8	0.1	0.15	0.7	TQ1	x	x
PTS12066V075	6	100	0.75	1.5	0.6	8	0.2	0.1	0.29	TR	x	x
PTS12066V100	6	100	1.0	1.8	0.8	8	0.3	0.065	0.21	TS	x	x
PTS12066V110	6	100	1.1	2.2	0.8	8	0.3	0.07	0.2	TU	x	x
PTS12066V150	6	100	1.5	3.0	0.8	8	1	0.04	0.12	TV	x	x
PTS12066V200	6	100	2.0	3.5	1.0	8	1.5	0.02	0.08	TX	x	x

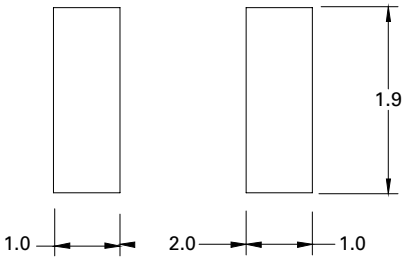
1. Vmax: Maximum continuous voltage the device can withstand without damage at current
2. Imax: Maximum fault current the device can withstand without damage at rated voltage
3. Ihold: Maximum current the device will pass without interruption at +23 °C still air
4. Itrip: Minimum current that will transition the device from low resistance to high resistance at +23 °C still air
5. Pd: Power dissipated from the device when in tripped state at +23 °C still air
6. R_i: Minimum resistance of the device at +23 °C
   R_1: Maximum resistance of the device when measured one hour post reflow at +23 °C
7. Part Number Definition: PTS1206xVxxx
   PTS1206 = Product code and size
   xV = Voltage rating (Vmax)
   xxx = Ampere rating (Ihold)

Dimensions–mm

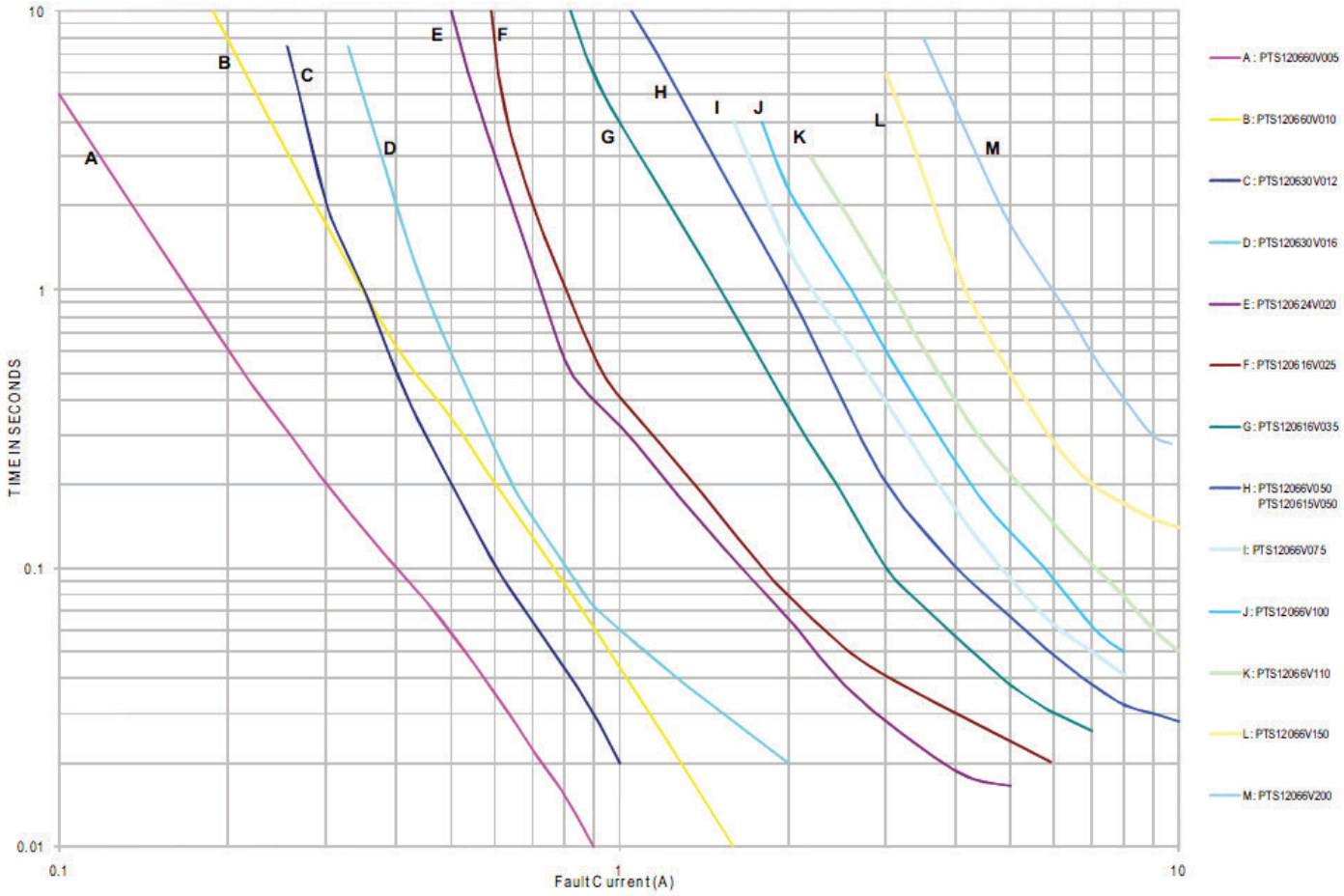


Part number	A minimum	A maximum
PTS120660V005	0.50	0.90
PTS120660V010	0.50	0.90
PTS120630V012	0.35	0.90
PTS120630V016	0.28	0.68
PTS120624V020	0.28	0.68
PTS120616V025	0.28	0.68
PTS120616V035	0.28	0.68
PTS12066V050	0.28	0.68
PTS120615V050	0.28	1.06
PTS12066V075	0.28	0.85
PTS12066V100	0.40	0.88
PTS12066V110	0.40	0.88
PTS12066V150	0.55	1.15
PTS12066V200	0.55	1.15

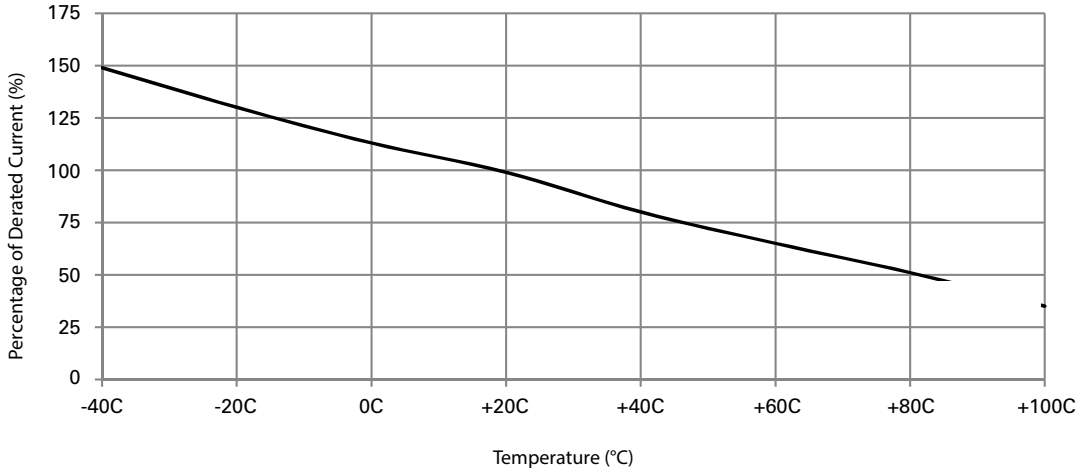
Recommended pad layout–mm



Time to trip curves at +23ºC



Temperature derating curve



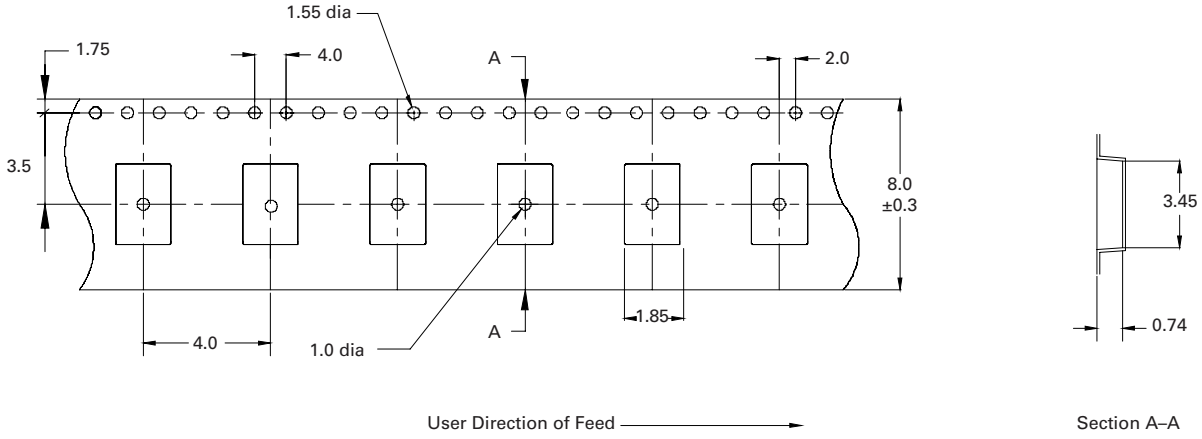
General specifications

Operating temperature: -40 °C to + 85 °C (with derating)
Storage temperature: -10 °C to + 40 °C
Storage relative humidity: 75%
Storage conditon: Keep away form corrosive atmosphere and sunlight
Storage duration: 1 year
Thermal shock: (20 cycles - 40 °C to + 85 °C) -33% typical resistance change
Humidity: +85 °C, 85% relative humidity, 1000 hours ±5% typical resistance change
Resistance to solvents: MIL-STD- 202 Method 215

Packaging information-mm

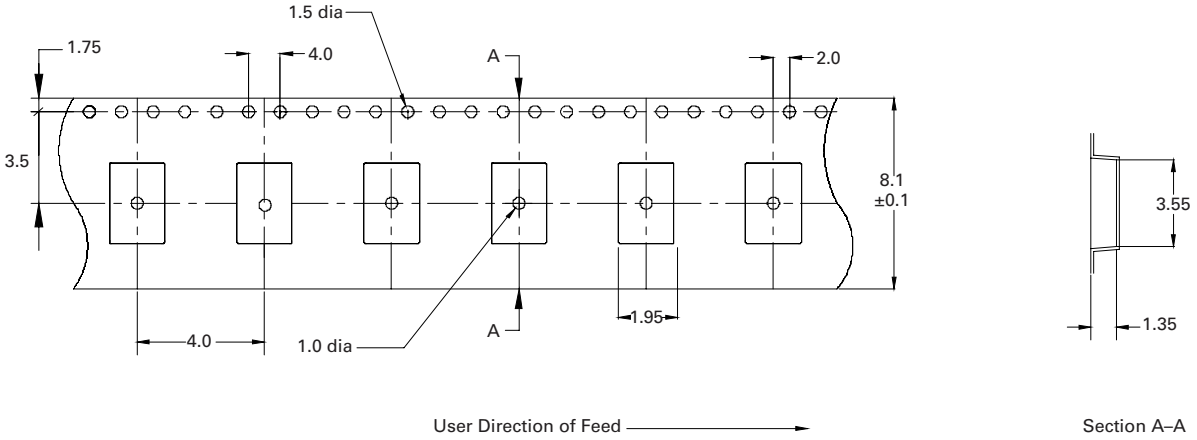
Supplied in tape and reel packaging, 5000 parts per 7.0" diameter reel (EIA-481 compliant)

PTS120630V012, PTS120630V016, PTS120624V020, PTS120616V025, PTS120616V035, PTS12066V050, PTS12066V075, PTS120660V005, PTS120660V010, PTS12066V100, PTS12066V110



Supplied in tape and reel packaging, 2500 parts per 7.0" diameter reel (EIA-481 compliant)

PTS120615V050, PTS12066V150, PTS12066V200



Solder reflow profile

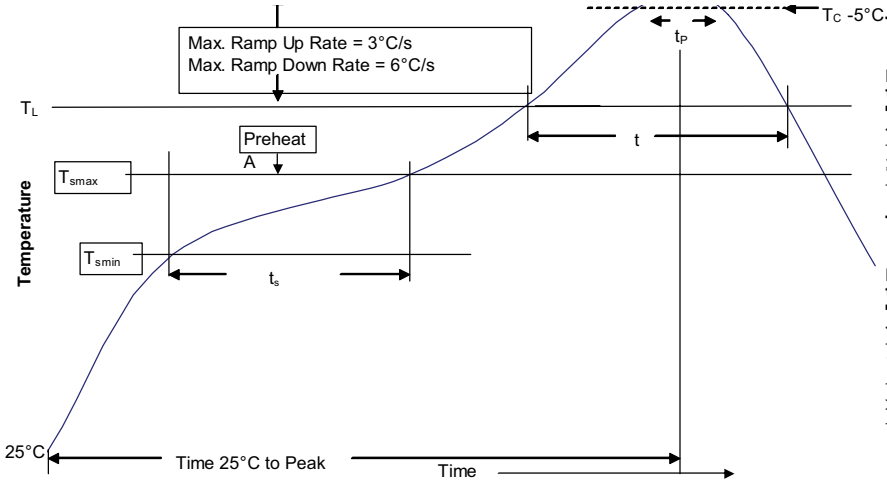


Table 1 - Standard SnPb solder (T_C)

Package thickness	Volume mm3 <350	Volume mm3 ≥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 mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >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) Time (t_L) maintained above T_L		183 °C 60-150 seconds	217 °C 60-150 seconds
Peak package body temperature (Tp)*		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.

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