

PTS1206

SMD PTC fuses



Product features

- Positive Temperature Coefficient (PTC)
- SMT resettable fuse
- Low resistance
- Fast time-to-trip
- Voltage range 6 V to 60 V
- Current range from 0.05A to 2.0A
- 1206 (3216 metric) compact footprint
- Moisture sensitivity level (MSL): 1

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



Environmental compliance



Part number/ordering

PTS120660V010

- PT= PTC fuse
- S= Surface mount
- 1206= size code
- 60V= Maximum dc voltage rating
- 010= Ihold rating (010=0.10 A)

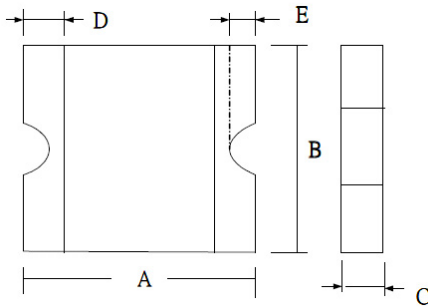
Product specifications

Part Number ⁷	V _{max} ¹	I _{max} ²	I _{hold} ³	I _{trip} ⁴	P _d ⁵	Time to trip (maximum)		Resistance ⁶		Agency information		
	(V _{dc})	(A)	(A)	(A)	typical (W)	(A)	(seconds)	Initial (R _i) minimum (Ω)	Post trip (R _t) maximum (Ω)	Part marking	cURus	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	0.25	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	0.1	0.09	0.29	TR	x	x
PTS12066V100	6	100	1.0	1.8	0.8	8	0.3	0.06	0.21	TS	x	x
PTS12066V110	6	100	1.1	2.2	0.8	8	0.1	0.07	0.2	TU	x	x
PTS12066V150	6	100	1.5	3.0	0.8	8	0.3	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

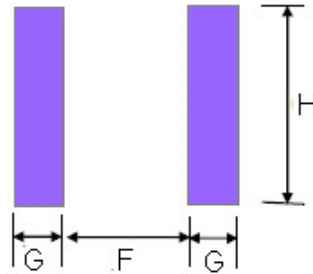
1. V_{max}: Maximum continuous voltage the device can withstand without damage at current
2. I_{max}: Maximum fault current the device can withstand without damage at rated voltage
3. I_{hold}: Maximum current the device will pass without interruption at +23 °C still air
4. I_{trip}: Minimum current that will transition the device from low resistance to high resistance at +23 °C still air
5. P_d: 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_t: 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 (V_{max})
xxx = Ampere rating (I_{hold})

Dimensions—mm

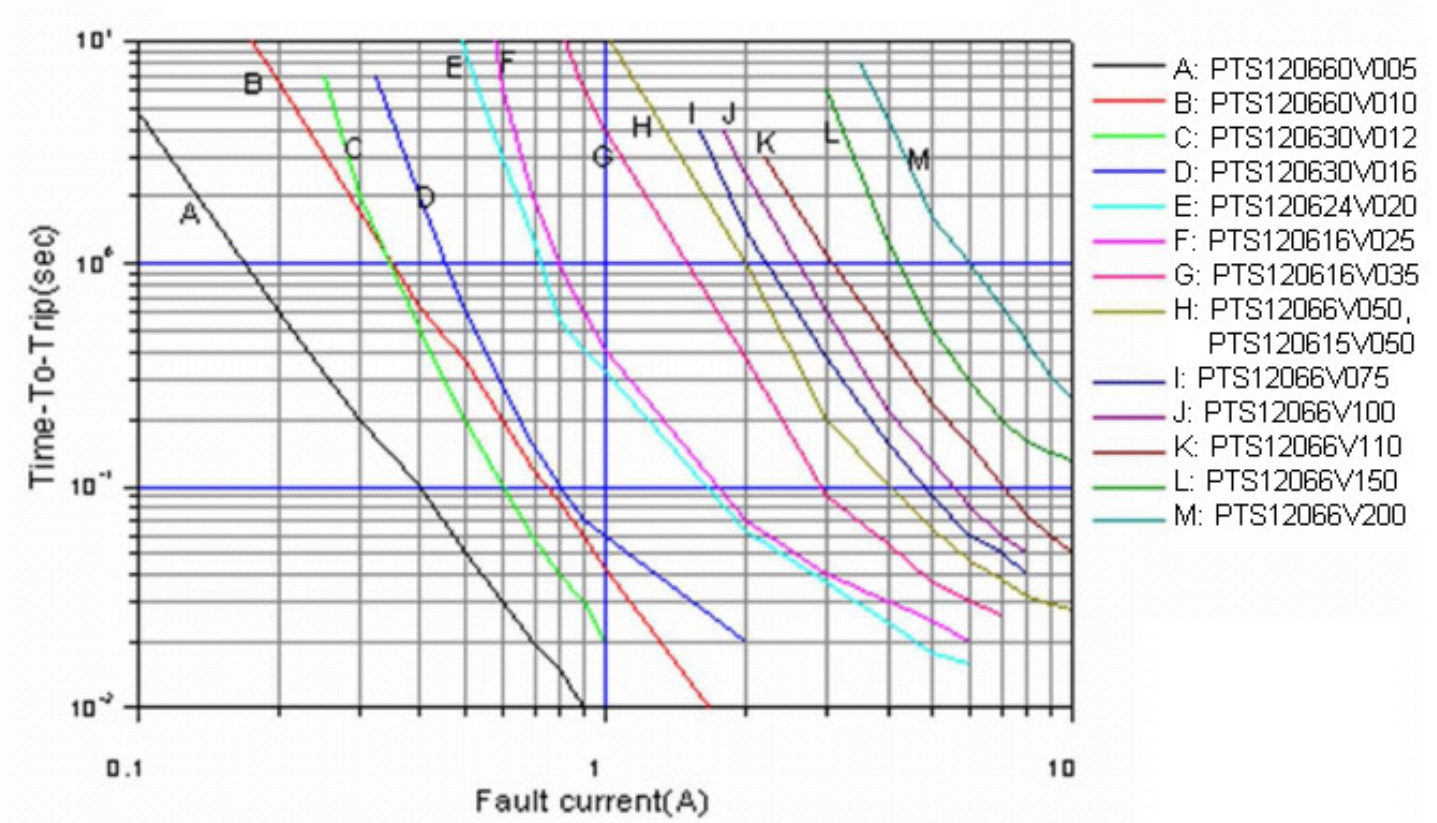


Recommended pad layout—mm

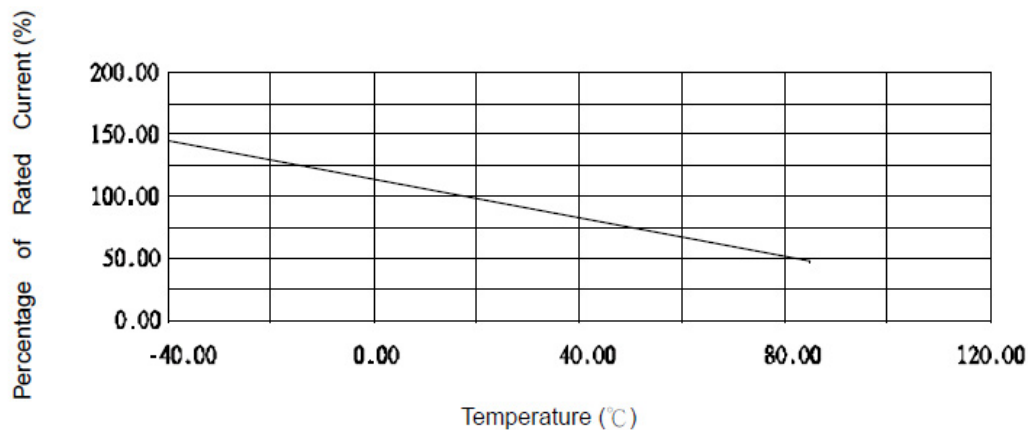


Part number	A minimum	A maximum	B minimum	B maximum	C minimum	C maximum	D minimum	D maximum	E minimum	E maximum	F	G	H
PTS120660V005	3.00	3.50	1.50	1.80	0.50	0.90	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120660V010	3.00	3.50	1.50	1.80	0.50	0.90	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120630V012	3.00	3.50	1.50	1.80	0.35	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120630V016	3.00	3.50	1.50	1.80	0.28	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120624V020	3.00	3.50	1.50	1.80	0.28	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120616V025	3.00	3.50	1.50	1.80	0.28	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120616V035	3.00	3.50	1.50	1.80	0.28	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS12066V050	3.00	3.50	1.50	1.80	0.28	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS120615V050	3.00	3.50	1.50	1.80	0.28	1.06	0.180	0.50	0.10	0.45	2.0	1.0	1.9
PTS12066V075	3.00	3.50	1.50	1.80	0.28	0.68	0.180	0.50	0.10	0.45	2.0	1.0	1.9

Time to trip curves at +23°C



Temperature derating curve



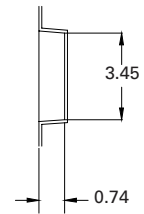
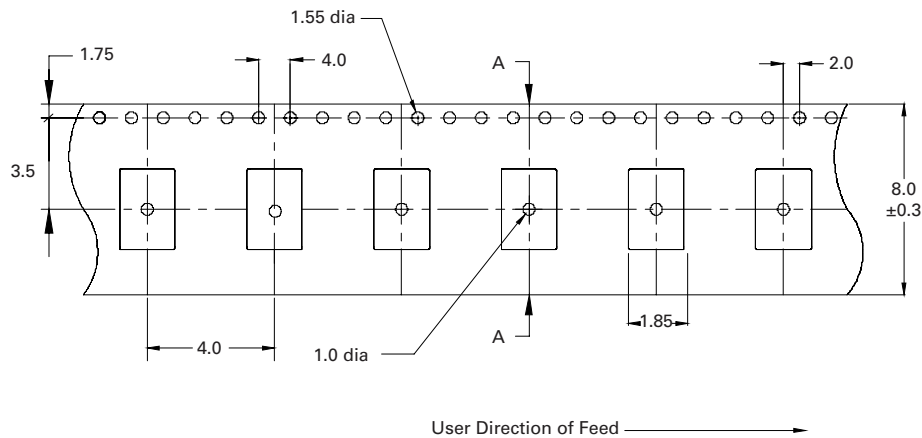
General specifications

Operating temperature: -40 °C to + 85 °C (with derating)
Storage temperature: -10 °C to + 40 °C
Storage relative humidity: 75%
Storage condition: Keep away from 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)

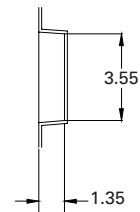
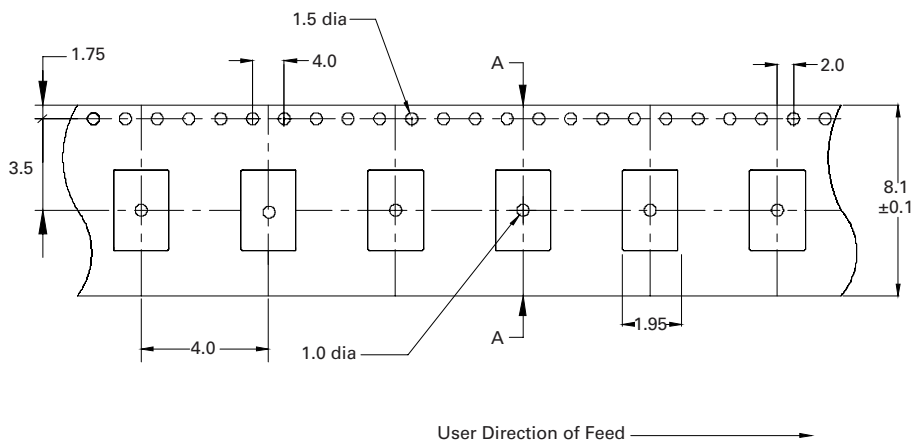
PTS120630V012, PTS120630V016, PTS120624V020, PTS120616V025, PTS120616V035, PTS12066V050, PTS12066V075, PTS120660V005, PTS120660V010, PTS12066V100, PTS12066V110



Section A-A

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

PTS120615V050, PTS12066V150, PTS12066V200



Section A-A

Figure 1 illustrates the temperature profile of a polymer melt. The graph shows Temperature versus Time. The curve starts at 25°C, rises to a peak, and then falls. Key parameters labeled include: Max. Ramp Up Rate = 3°C/s, Max. Ramp Down Rate = 6°C/s, T_L (liquidus temperature), T_{smax} (solidus maximum), T_{smin} (solidus minimum), t_s (solidus time), t (time), t_p (peak time), and $T_c - 5^\circ\text{C}$ (crystallization temperature). A 'Preheat' box is shown above the curve.

Package thickness	Volume mm3 <350	Volume mm3 ≥350
<2.5 mm)	235 °C	220 °C
≥2.5 mm	220 °C	220 °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

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.

