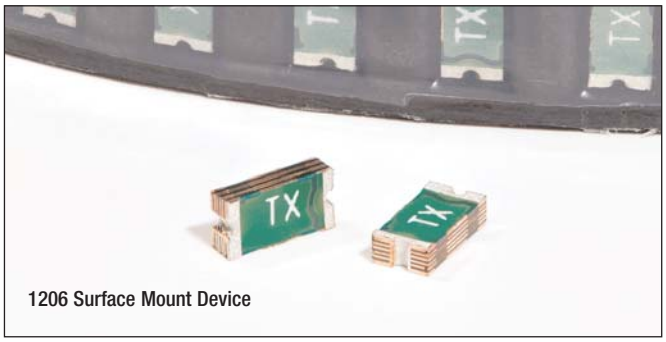
COOPER Bussmann

6-60 Volt DC Surface Mount, PolyTron™ PTC Devices

PolyTron™ PTS1206 Series



1206 Surface Mount Device

Description

- PolyTron™ surface mount PTC device
- 6 to 60 volts
- Current ratings from 0.05 to 2.0 amps
- Fast time-to-trip
- Low resistance
- Halogen free
- Lead free
- RoHS compliant

Agency Information

- cURus: Recognized Card: File E343021 (I_{hold} 0.05-2.0A)
- TUV File: R 50192872

Part Number System/Ordering

PT S 1206 6V 110

- PolyTron™ PTC Device Series
- Surface Mount
- Dimension Code
- Maximum Voltage
- Current Holding (I_{hold})
- Tape and Reel Packaging/Quantities
  - PTS120630V012, PTS120630V016, PTS120624V020, PTS120616V025, PTS120616V035, PTS12066V050, PTS12066V075 - 5000 PTC devices per reel
  - All others - 2500 PTC devices per reel

Applications

- Medical equipment
- White goods
- Telecommunications
- Computers and peripherals
- Rechargeable battery packs

Specifications

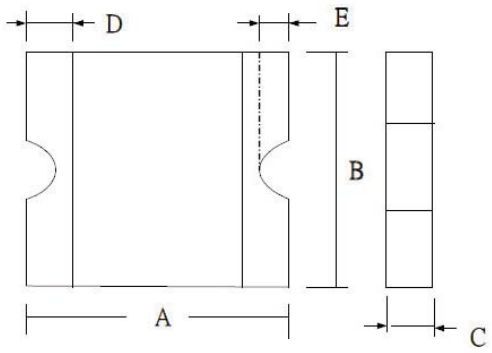
Catalog Number	Mark On Part	V_{max} (Vdc)	I_{max} (Amps)	I_{hold} @23°C (Amps)	I_{trip} @23°C (Amps)	Pd Typ. (W)	Time to Trip (Max.)		Resistance (Ω)		Agency Information	
							(Amps)	(Sec)	Initial (R_i) Min.	Post Trip (R_1) Max.	cURus	TUV
PTS120660V005	TH	60	100	0.05	0.15	0.4	0.25	1.5	3.6	50	X	X
PTS120660V010	TY	60	100	0.10	0.25	0.4	0.50	1.0	1.6	15	X	X
PTS120630V012	TJ	30	100	0.12	0.29	0.5	1.00	0.2	1.4	6	X	X
PTS120630V016	TK	30	100	0.16	0.37	0.5	1.00	0.3	1.1	4.5	X	X
PTS120624V020	TL	24	100	0.20	0.42	0.6	8.00	0.1	0.65	2.6	X	X
PTS120616V025	TN	16	100	0.25	0.50	0.6	8.00	0.08	0.55	2.3	X	X
PTS120616V035	TP	16	100	0.35	0.75	0.6	8.00	0.1	0.3	1.2	X	X
PTS12066V050	TQ	6	100	0.50	1.00	0.6	8.00	0.1	0.15	0.7	X	X
PTS120615V050	TQ1	15	100	0.50	1.00	0.6	8.00	0.1	0.15	0.7	X	X
PTS12066V075	TR	6	100	0.75	1.50	0.6	8.00	0.1	0.1	0.29	X	X
PTS12066V100	TS	6	100	1.00	1.80	0.8	8.00	0.3	0.065	0.21	X	X
PTS12066V110	TU	6	100	1.10	2.20	0.8	8.00	0.1	0.07	0.2	X	X
PTS12066V150	TV	6	100	1.50	3.00	0.8	8.00	0.3	0.04	0.12	X	X
PTS12066V200	TX	6	100	2.00	3.50	1.0	8.00	1.5	0.02	0.08	X	X

Notes:
I_{hold} – Hold current: Maximum current device will pass without interruption in 23°C still air.
I_{trip} – Trip current: Minimum current that will switch the device from low resistance to high resistance in 23°C still air.
V_{max}: Maximum continuous voltage device can withstand without damage at rated current.
I_{max}: Maximum fault current device can withstand without damage at rated voltage.
P_d: Power dissipated from device when in the tripped state in 23°C still air.
R_i (min.): Minimum resistance of device as supplied at 23°C unless otherwise specified.
R_1(max.): Maximum resistance of device when measured one hour post reflow (SMD) or one hour post trip (radial-leaded device) at 23°C unless otherwise specified.

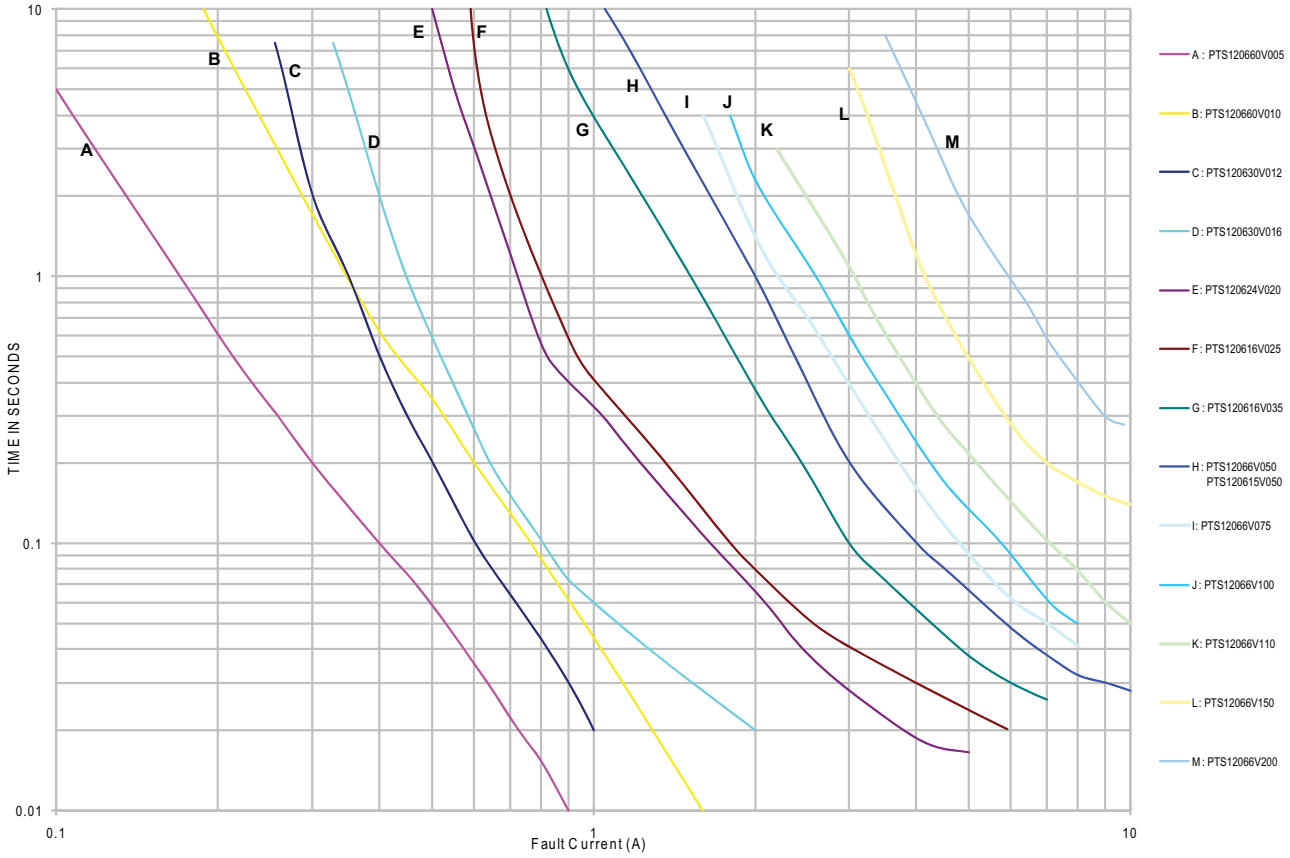
Dimensions - mm

Part Number	A		B		C		D	E	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.
PTS120660V005	3.00	3.50	1.50	1.80	0.50	0.90	0.125	0.08	0.45
PTS120660V010	3.00	3.50	1.50	1.80	0.50	0.90	0.125	0.08	0.45
PTS120630V012	3.00	3.50	1.50	1.80	0.35	0.90	0.125	0.08	0.45
PTS120630V016	3.00	3.50	1.50	1.80	0.28	0.68	0.125	0.08	0.45
PTS120624V020	3.00	3.50	1.50	1.80	0.28	0.68	0.125	0.08	0.45
PTS120616V025	3.00	3.50	1.50	1.80	0.28	0.68	0.125	0.08	0.45
PTS120616V035	3.00	3.50	1.50	1.80	0.28	0.68	0.125	0.08	0.45
PTS12066V050	3.00	3.50	1.50	1.80	0.28	0.68	0.125	0.08	0.45
PTS120615V050	3.00	3.50	1.50	1.80	0.28	1.06	0.125	0.08	0.45
PTS12066V075	3.00	3.50	1.50	1.80	0.28	0.85	0.125	0.08	0.45
PTS12066V100	3.00	3.50	1.50	1.80	0.40	0.88	0.125	0.08	0.45
PTS12066V110	3.00	3.50	1.50	1.80	0.40	0.88	0.125	0.08	0.45
PTS12066V150	3.00	3.50	1.50	1.80	0.55	1.15	0.125	0.08	0.45
PTS12066V200	3.00	3.50	1.50	1.80	0.55	1.15	0.125	0.08	0.45

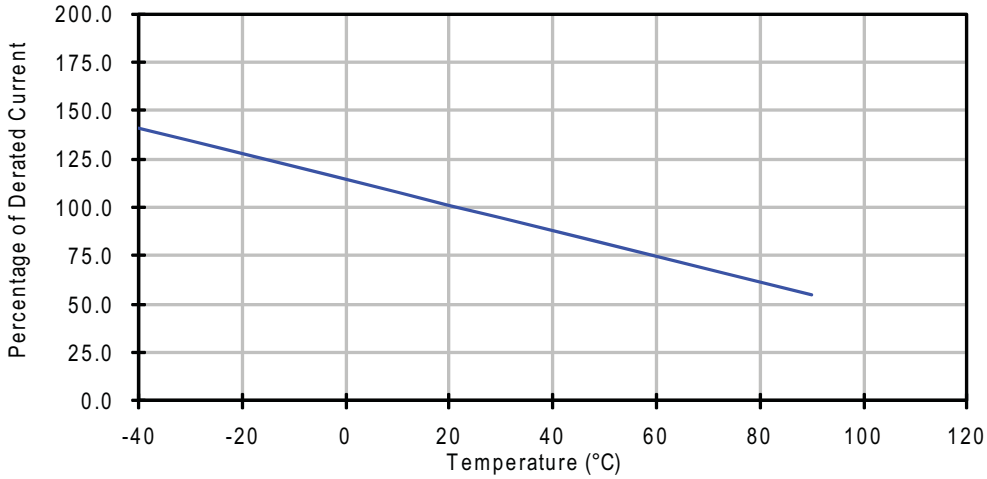
1206 Package



Time-to-Trip Curves at 23°C



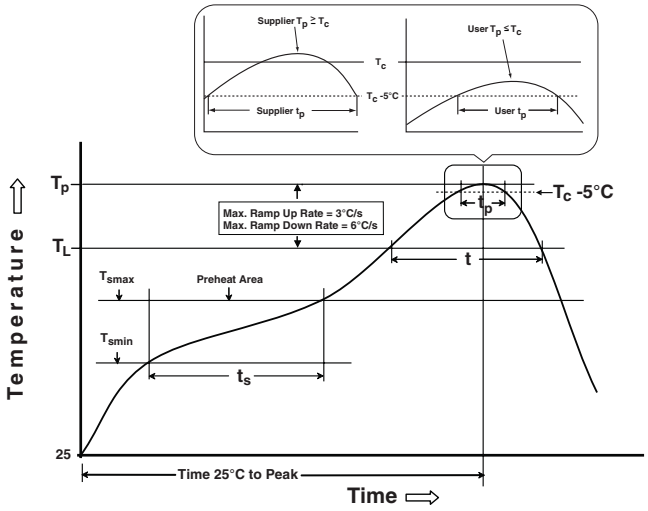
Thermal Derating Curve



Soldering Methods

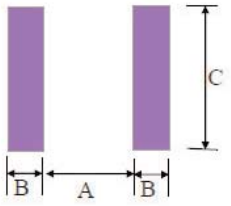
- Wave Solder
  - Reservoir Temperature: 260°C (500°F)
  - Recommended time in reservoir: 10 seconds.
- Infrared Reflow
  - Temperature: 260°C
  - Time: 10 seconds maximum at peak temperature.

Recommended Wave Solder Profile



Environmental Specifications	
Characteristic	**Value**
Operating Temperature Range	-40°C to +85°C
Surface Temperature Trip State	125°C max.
Thermal Shock	+85°C to -40°C , 10 cycles, 5% typical resistance change
Solvent Resistance	MIL-STD-202 Method 215, no change
Humidity Age Test	+85°C, 85% RH, 1000 hours ±5% typical resistance change. Specified temperature (23°C ± 3°C)
Storage Temperature Range	-10°C to +40°C
Storage Duration	One year
Storage Relative Humidity	≤75%
Storage Conditions	Keep away from corrosive atmosphere and sunlight

Recommended Land Pattern - mm (in)



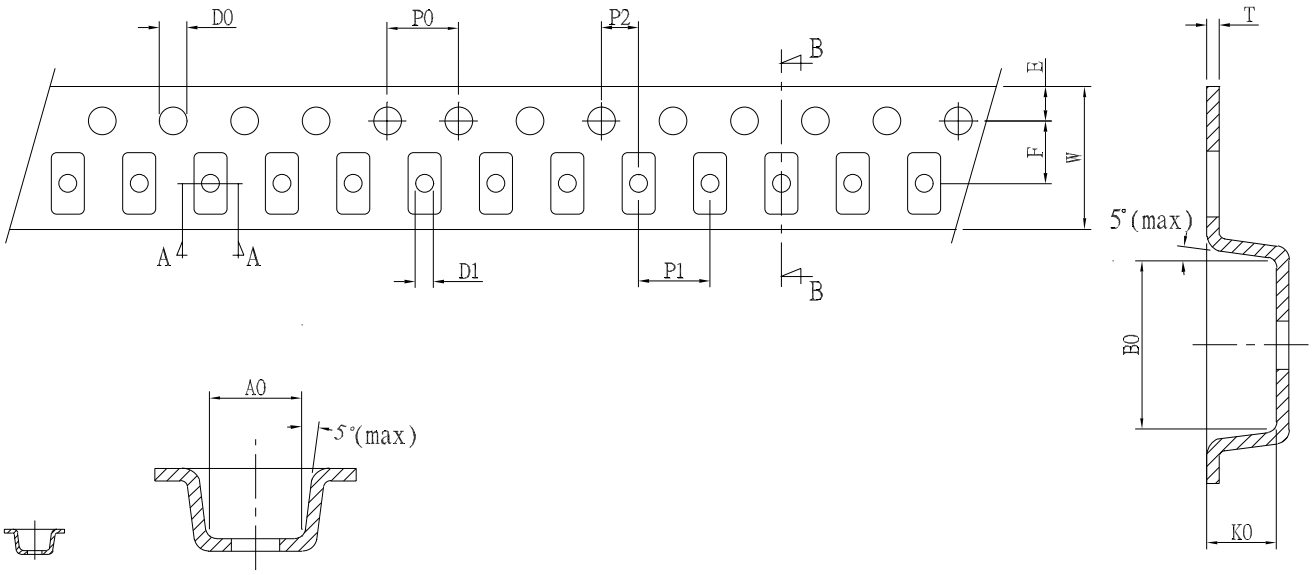
A	B	C
2.0 (0.079)	1.0 (0.039)	1.9 (0.075)

Material Composition

- Terminal material: Nickel/tin-plated copper

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat & 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
Average ramp-up rate (T_{smax} to T_p)	3°C/second max.	3°C/second max.
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60-150 seconds	60-150 seconds
Peak package body temperature (T_p)*	See classification temp in Table 4.1	See classification temp in Table 4.2
Time (t_p)** within 5°C of the specified classification temperature (T_c)	20** seconds	30** seconds
Average ramp-down rate (T_p to T_{smax})	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. ** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.		

Packaging Specifications

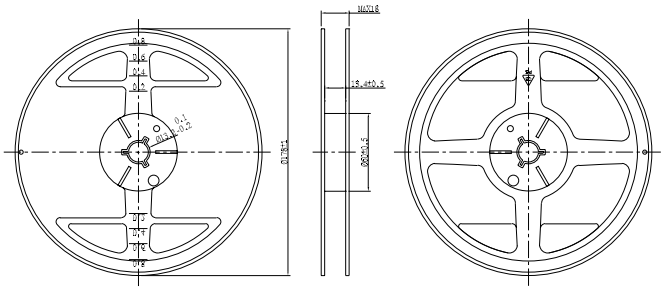


A-A SECTION

B-B SECTION

For PTS120660V005, PTS120660V010, PTS120615V050, PTS12066V100, PTS12066V110, PTS12066V150, PTS12066V200													
Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1	±0.05	+0.1/-0	Min.	±0.1	±0.2
1206	1.95	3.55	1.35	4.0	4.0	2.0	0.25	1.75	3.5	1.5	1.0	8.1	40.0
For PTS120630V012, PTS120630V016, PTS120624V020, PTS120616V025, PTS120616V035, PTS12066V050, PTS12066V075													
Index	A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
Type	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.1	±0.1	±0.05	±0.05	Min.	±0.3	±0.2
1206	1.85	3.45	0.74	4.0	4.0	2.0	0.25	1.75	3.5	1.55	1.0	8.0	40.0

Reel Specifications



S3 Reel

Unit:mm

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