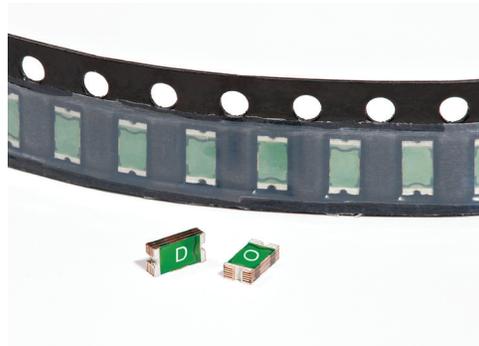


Bussmann PTS0805 Series

6-24 Volt DC surface mount PolyTron™ PTC devices



Product description

The Bussmann PolyTron™ PTC devices are ideally suited for protecting applications sensitive to high ambient operating temperatures or subject to frequent overcurrent conditions.

- Lead free, halogen free and RoHS compliant
- PolyTron™ surface mount PTC device
- 6 to 24 volts
- Current ratings from 0.1 to 0.75 amps
- Fast time-to-trip
- Small EIA size 0805 (2012 metric) footprint

Agency information:

- cURus Recognized card, File No: E343021
- TÜV, File: R 50283843

Part number system/ordering:

PT S 0805 6V 035

- PT = PolyTron™ PTC device series
- S = Surface mount
- 0805 = Dimension code
- 6V = Maximum voltage
- 035 = Current hold (I_{hold})

Tape and reel packaging/quantities:

- 4000 devices per 178mm diameter reel

Applications:

- USB Peripherals
- Disk drives
- Power tools
- Rechargeable battery pack protection
- Plug and play protection for motherboards and peripherals
- Mobile phones - battery and port protection
- Game console port protection
- Digital cameras
- Set-top boxes
- Tablets/notebooks/netbooks



Product specifications @ 23°C

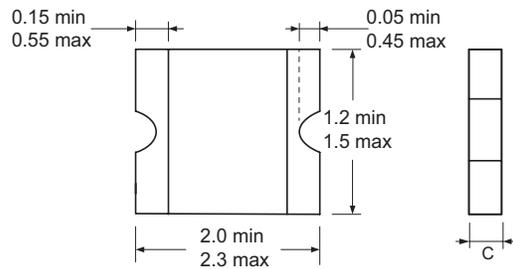
Catalog Number	Part Marking	V _{max} (Vdc)	I _{max} (amps)	I _{hold} (amps)	I _{trip} (amps)	P _d Max. (W)	Time to trip (max.)		Resistance (Ω)		Agency information	
							(Amps)	(Sec)	Initial (R _i)	Post trip (R ₁)	cURus	TUV
									Min.	Max.		
PTS080524V010	D	24	100	0.1	0.30	0.5	0.5	1.5	1.0	6.0	X	X
PTS08059V020	L	9	100	0.2	0.50	0.5	8.0	0.05	0.65	3.5	X	X
PTS08056V035	T	6	100	0.35	0.75	0.5	8.0	0.1	0.25	1.2	X	X
PTS08056V050	O	6	100	0.5	1.00	0.5	8.0	0.2	0.15	0.85	X	X
PTS08056V075	X	6	100	0.75	1.50	0.5	8.0	0.3	0.09	0.40	X	X

Notes:

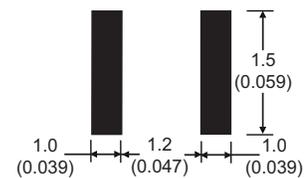
- I_{hold} – Hold current: Maximum current device will pass without interruption in 23°C still air.
- I_{trip} – Trip current: Minimum current that will switch the device from low resistance to high resistance in 23°C still air.
- V_{max}: Maximum continuous voltage device can withstand without damage 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.
- R₁ (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	C Max.
PTS080524V010	1.00
PTS08059V020	1.00
PTS08056V035	0.75
PTS08056V050	1.25
PTS08056V075	1.25



Recommended land pattern - mm (in)



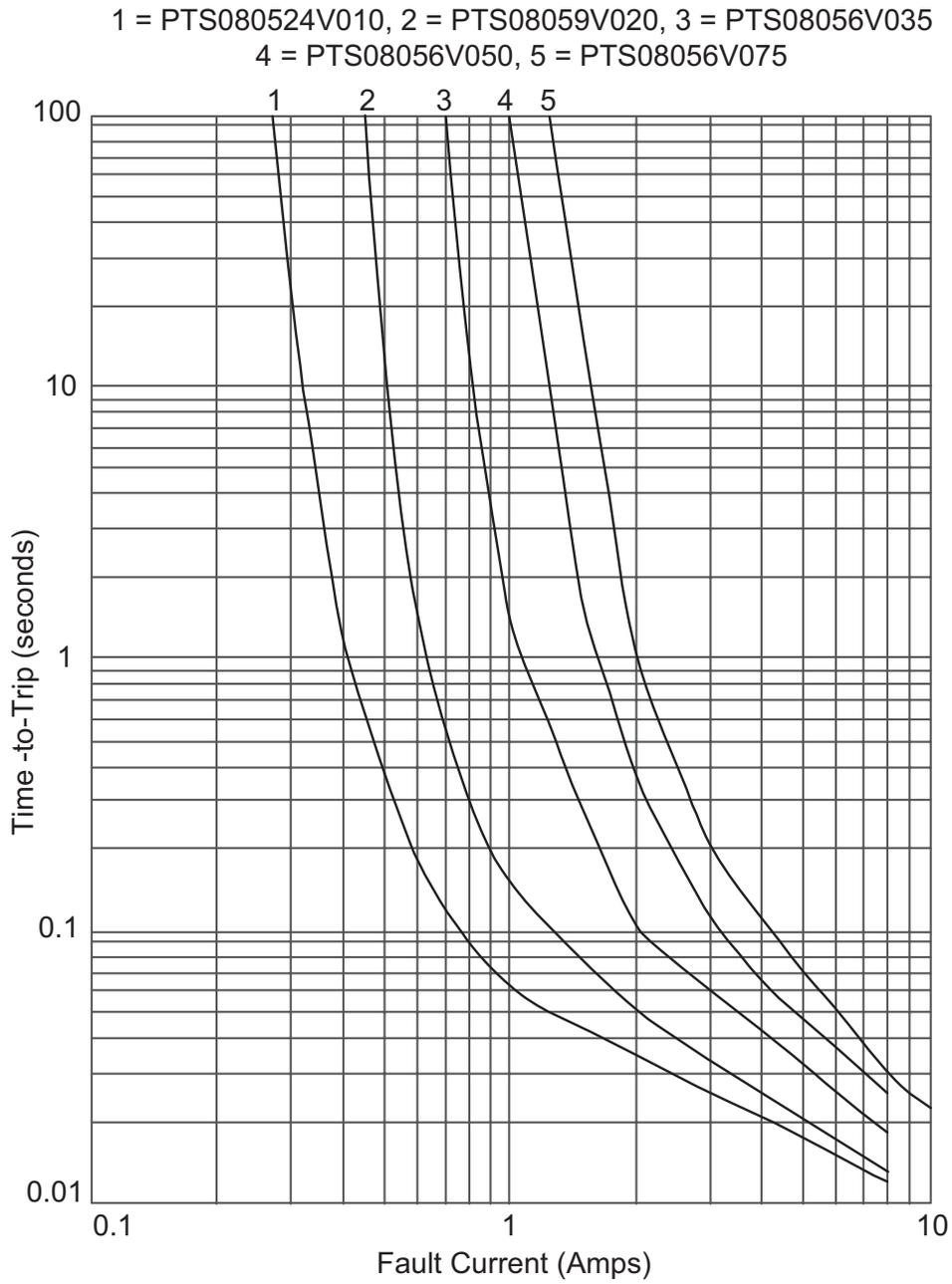
Environmental specifications

Characteristic	Value
Operating temperature range	-40°C to +85°C
Surface temperature in tripped state	125°C max.
Thermal shock	+85°C to -40°C, 20 cycles, -33% typical resistance change
Solvent resistance	MIL-STD-202 Method 215, no change
Humidity age test	Specified temperature (23°C ± 3°C) +85°C, 85% RH, 100 hours ±5% typical resistance change.
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

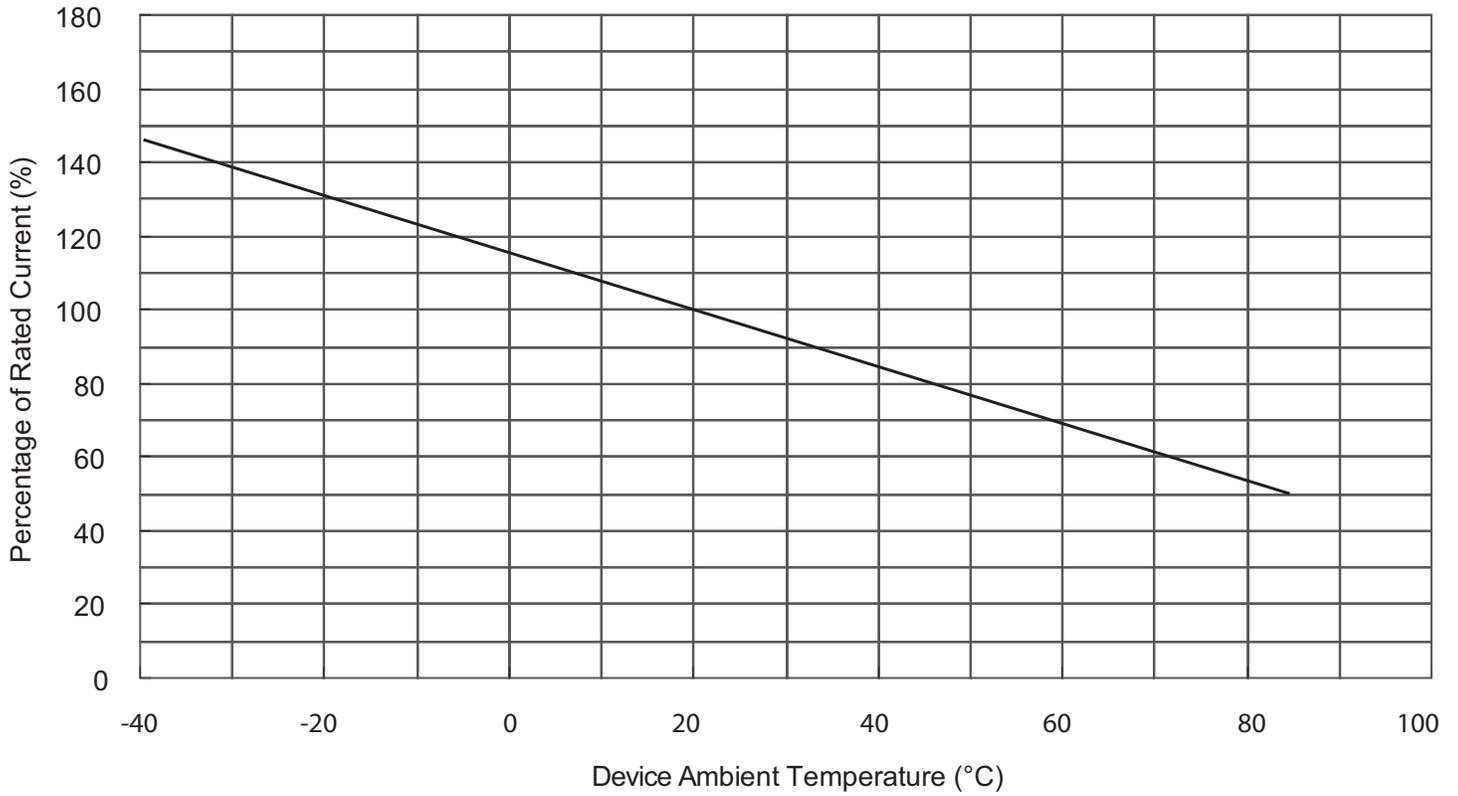
Terminal material:

- Nickel/tin-plated copper

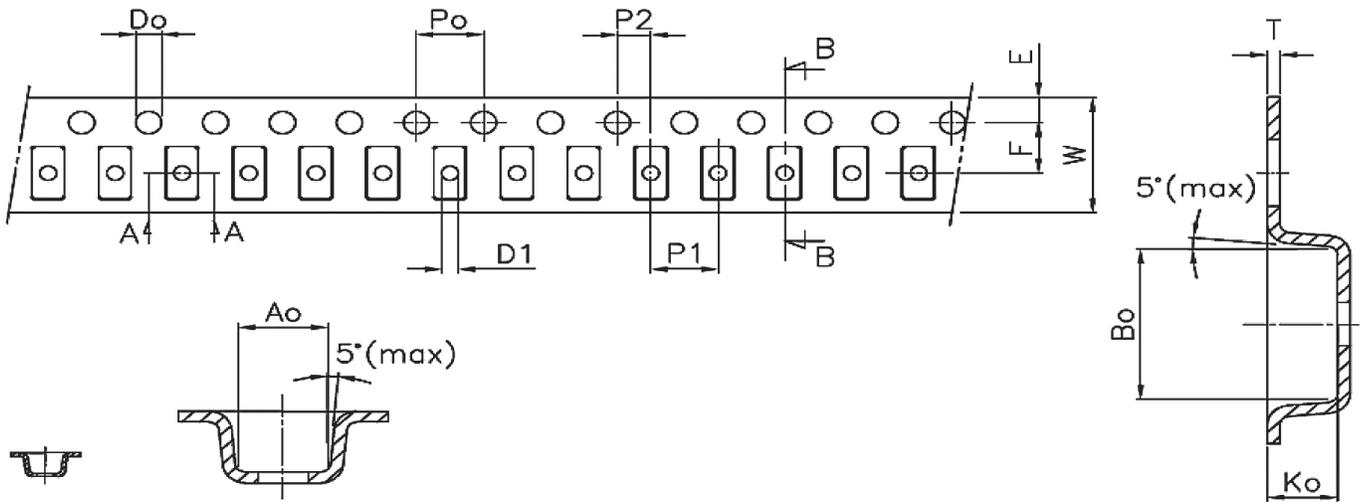
Time-to-trip curves at 23°C



Thermal derating curve



Packaging information - mm



A-A SECTION

A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	±0.05	±0.10	±0.05	±0.10	Min.	±0.10	±0.20
1.6	2.3	0.9	4.0	4.0	2.0	0.25	1.75	3.5	1.5	1.0	8.1	40.0

Soldering methods

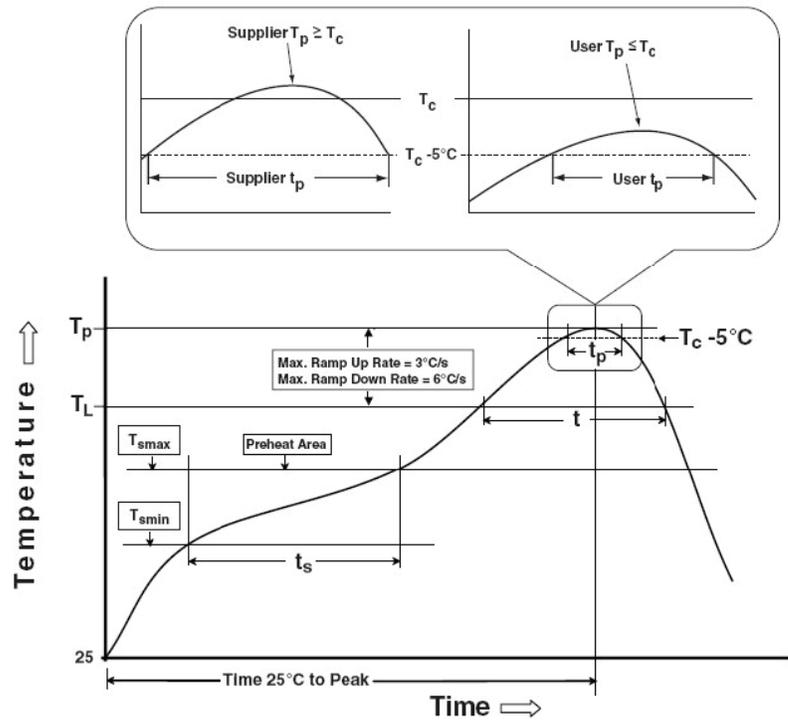
Wave solder

- Reservoir temperature: 260°C (500°F)
- Recommended time in reservoir: ≤ 5 seconds.

Infrared reflow

- Temperature: 260°C
- Time: 10 seconds maximum at peak temperature.

Recommended reflow solder profile



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
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}) (ts)	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 1	See classification temp in Table 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.

Table 1 – Standard SnPb solder (T_c)

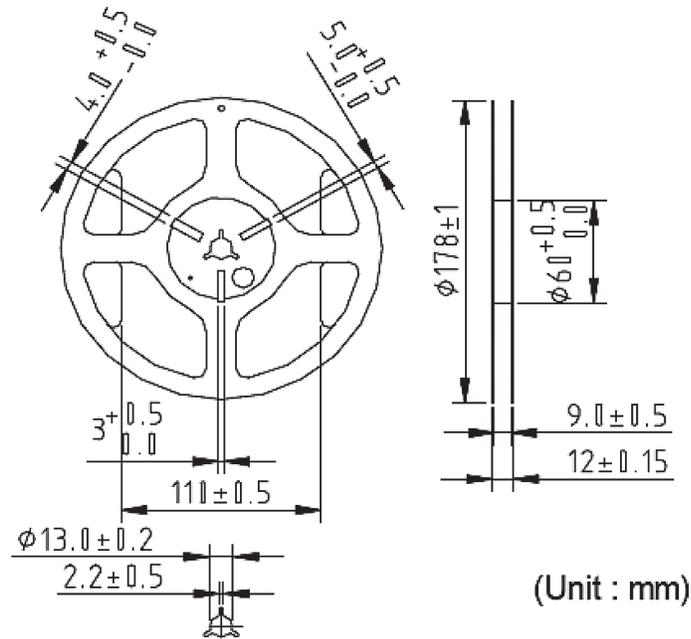
Package Thickness	Volume mm ³	
	<350	350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 – Lead (Pb) free solder (T_c)

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

Reel specifications

4000 devices per 178mm diameter reel



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