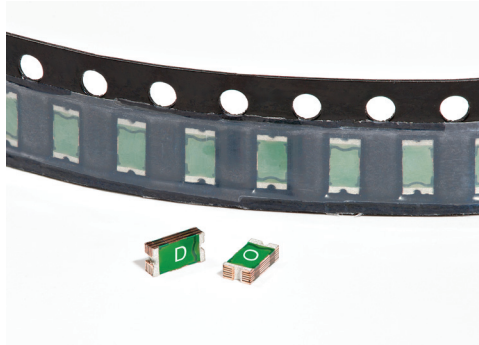


# PTS0805

## 6-24 Volt DC surface mount resettable PTC devices



### Product features

- Positive Temperature Coefficient (PTC)
- SMT resettable device
- Low resistance
- 6 to 24 volts
- Current ratings from 0.1 A to 0.75 A
- Fast time-to-trip
- Small EIA size 0805 (2012 metric) footprint

### 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

### 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 ( $I_{hold}$ )

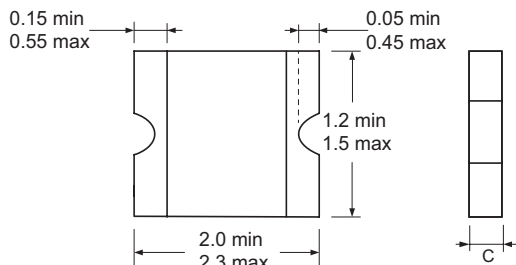
**Product specifications- (+23 °C)**

Catalog Number	Part Marking	V <sub>max</sub> (Vdc)	I <sub>max</sub> (amps)	I <sub>hold</sub> (amps)	I <sub>trip</sub> (amps)	P <sub>d</sub> Max. (W)	Time to trip (max.)		Resistance (Ω)		Agency information	
							(Amps)	(Sec)	Initial (R <sub>i</sub> )	Post trip (R <sub>t</sub> )	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

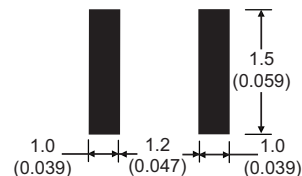
Notes:  
 I<sub>hold</sub> – Hold current: Maximum current device will pass without interruption in +23 °C still air.  
 I<sub>trip</sub> – Trip current: Minimum current that will switch the device from low resistance to high resistance in +23 °C still air.  
 V<sub>max</sub>: Maximum continuous voltage device can withstand without damage at rated current.  
 I<sub>max</sub>: Maximum fault current device can withstand without damage at rated voltage.  
 P<sub>d</sub>: Power dissipated from device when in the tripped state in +23 °C still air.  
 R<sub>i</sub> (min.): Minimum resistance of device as supplied at +23 °C unless otherwise specified.  
 R<sub>t</sub> (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)**



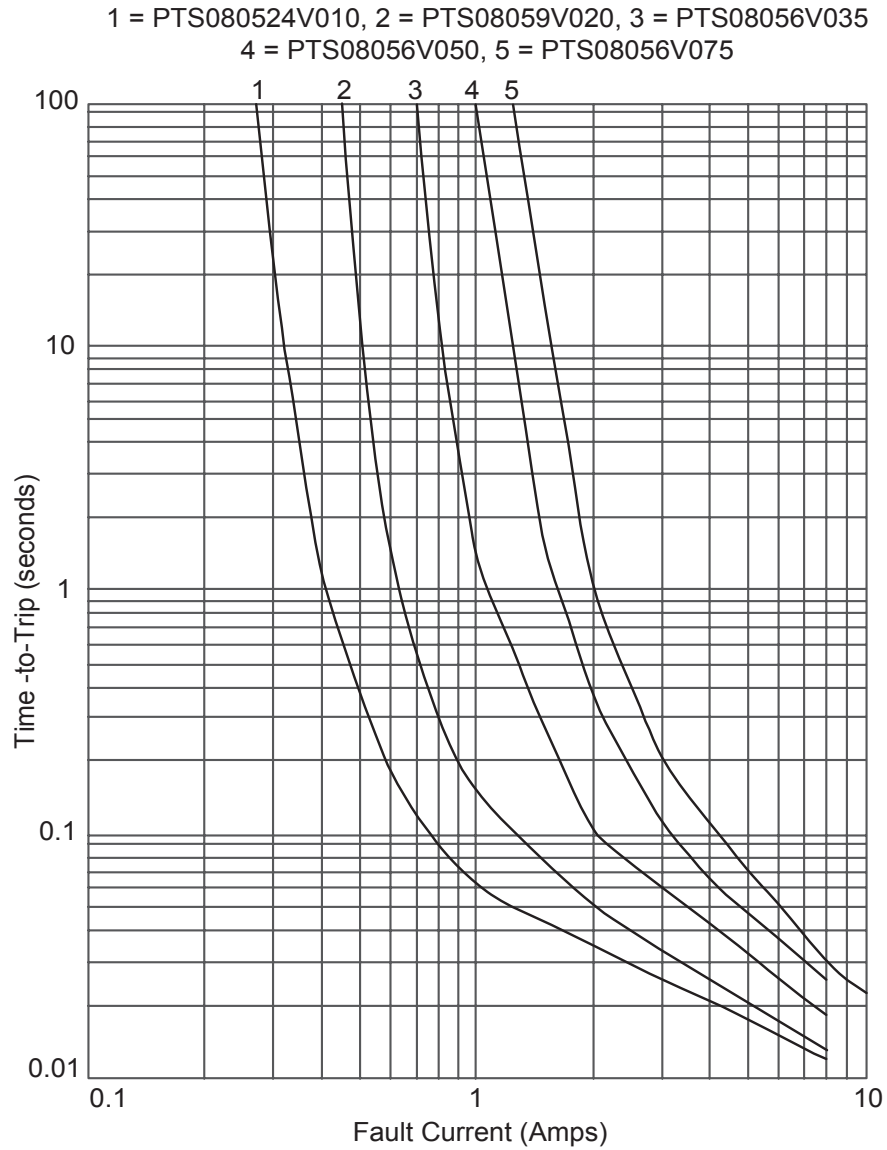
**Environmental specifications**

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

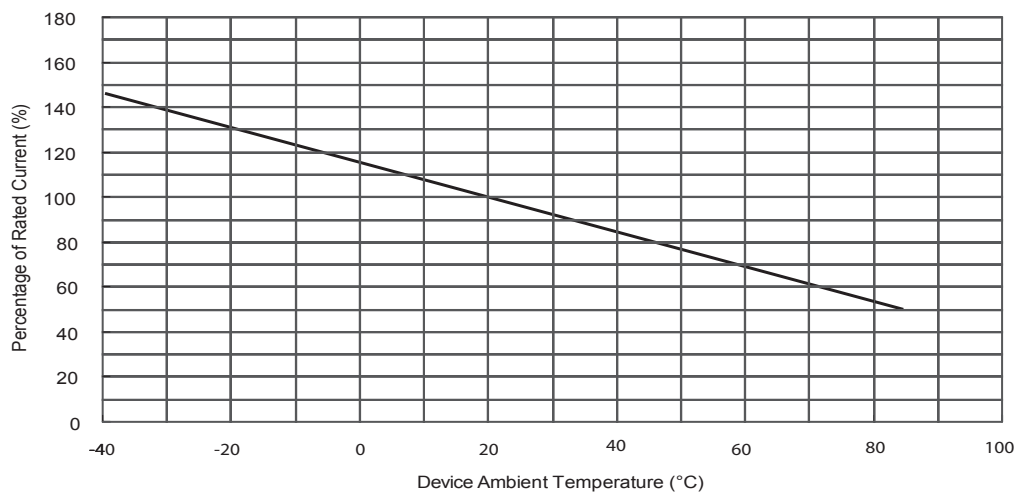
**Terminal material:**

- Nickel/tin-plated copper

**Time to trip curves at 23°C**

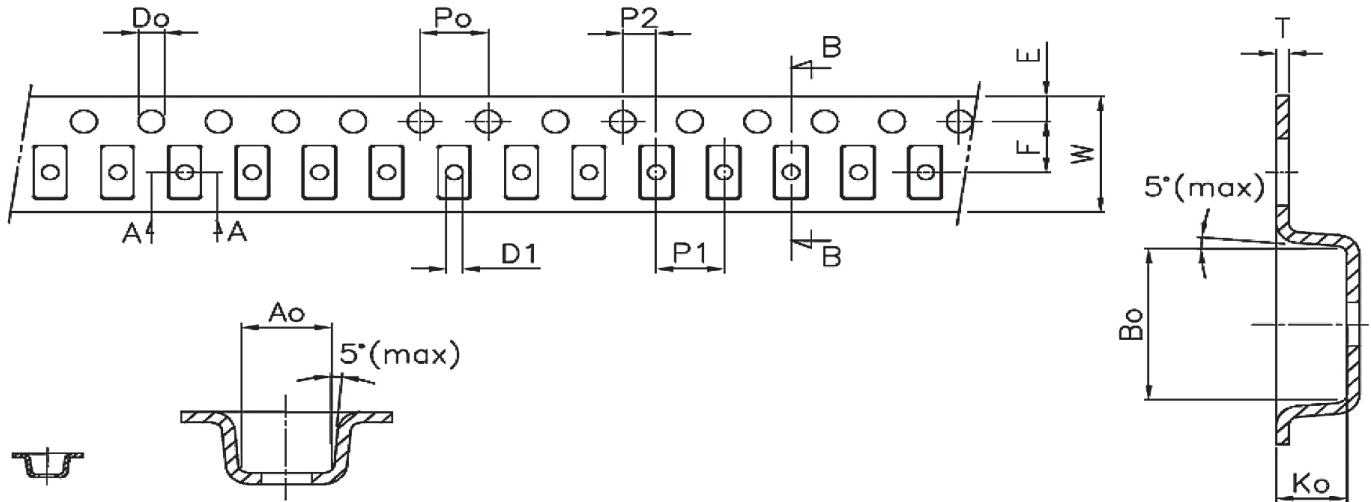


**Temperature derating curve**



**Packaging information - mm**

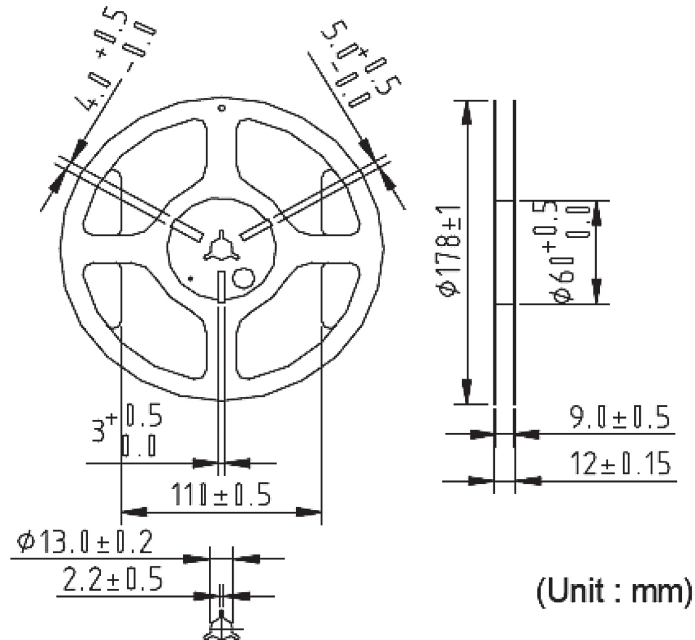
4000 devices per 178 mm diameter reel



A0	B0	K0	P0	P1	P2	T	E	F	D0	D1	W	10P0
$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.10$	$\pm 0.05$	$\pm 0.05$	$\pm 0.10$	$\pm 0.05$	$\pm 0.10$	Min.	$\pm 0.10$	$\pm 0.20$
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

**Reel specifications**

4000 devices per 178mm diameter reel



(Unit : mm)

**Solder reflow profile**



**Table 1 - Standard SnPb Solder (T<sub>c</sub>)**

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> ≥350
<2.5mm)	235°C	220°C
≥2.5mm	220°C	220°C

**Table 2 - Lead (Pb) Free Solder (T<sub>c</sub>)**

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350 - 2000	Volume mm <sup>3</sup> >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

**Reference JEDEC J-STD-020**

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak		
• Temperature min. (T <sub>smin</sub> )	100°C	150°C
• Temperature max. (T <sub>smax</sub> )	150°C	200°C
• Time (T <sub>smin</sub> to T <sub>smax</sub> ) (t <sub>s</sub> )	60-120 Seconds	60-120 Seconds
Average ramp up rate T <sub>smax</sub> to T <sub>p</sub>	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T <sub>L</sub> )	183°C	217°C
Time at liquidous (t <sub>L</sub> )	60-150 Seconds	60-150 Seconds
Peak package body temperature (T <sub>p</sub> )*	Table 1	Table 2
Time (t <sub>p</sub> )** within 5 °C of the specified classification temperature (T <sub>c</sub> )	20 Seconds**	30 Seconds**
Average ramp-down rate (T <sub>p</sub> to T <sub>smax</sub> )	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<sub>p</sub>) is defined as a supplier minimum and a user maximum.  
\*\* Tolerance for time at peak profile temperature (t<sub>p</sub>) is defined as a supplier minimum and a user maximum.

**Wave solder**

Reservoir temperature: 260°C  
Time in reservoir: 10 seconds maximum

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Printed in USA  
Publication No. 10130 BU-SB14562  
August 2017

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