

PTR030V

30 Volt DC radial leaded, PolyTron™ PTC devices



Product features

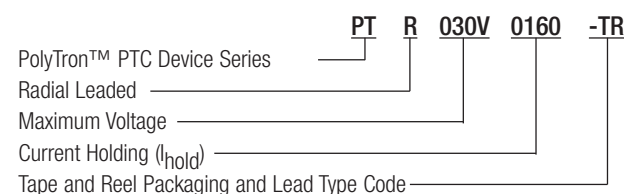
- PolyTron™ radial leaded thru-hole PTC device
- Maximum 30 volts
- Current ratings from 0.90 to 9.00 amps
- Fast time-to-trip
- Low resistance
- Halogen free, Lead free, RoHS compliant

Applications

- Medical equipment
- White goods
- Industrial power transmission
- Telecommunications
- Computers and peripherals
- Consumer and automotive electronics
- Rechargeable battery packs

Agency information

- cURus: Recognized Card: File E343021 (Ihold 0.9-9A)
- TUV File: J 50194729

Ordering information/
part number system

Lead Codes: TR & BK - Straight Leads, TR1 & BK1 - Kinked Leads

TR & TR1 On Reels

- 0.90-1.60A - 3000 devices
- 1.85-3.00A - 2000 devices
- 4.00-9.00A - 1000 devices

BK & BK1 In Poly Bags

- 0.90-1.35A - 1,000 devices
- 1.60-6.00A - 500 devices
- 7.00-9.00A - 250 devices

Specifications

Specifications												
Catalog Number	V _{max} (Vdc)	I _{max} (Amps)	I _{hold} @23°C (Amps)	I _{trip} @23°C (Amps)	P _d Typ. (W)	Time to Trip (Max.)		Resistance (Ω)			Agency Information	
								Initial (R)		Post Trip (R)		
						(Amps)	(Sec)	Min.	Max.	Max.	cURus	TUV
PTR030V0090	30	40	0.90	1.80	0.6	4.50	5.90	0.070	0.120	0.22	X	X
PTR030V0110	30	40	1.10	2.20	0.7	5.50	6.60	0.050	0.100	0.17	X	X
PTR030V0135	30	40	1.35	2.70	0.8	6.75	7.30	0.040	0.080	0.13	X	X
PTR030V0160	30	40	1.60	3.20	0.9	8.00	8.00	0.030	0.070	0.11	X	X
PTR030V0185	30	40	1.85	3.70	1.0	9.25	8.70	0.030	0.060	0.09	X	X
PTR030V0250	30	40	2.50	5.00	1.2	12.50	10.30	0.020	0.040	0.07	X	X
PTR030V0300	30	40	3.00	6.00	2.0	15.00	10.80	0.020	0.050	0.08	X	X
PTR030V0400	30	40	4.00	8.00	2.5	20.00	12.70	0.010	0.030	0.05	X	X
PTR030V0500	30	40	5.00	10.00	3.0	25.00	14.50	0.010	0.030	0.05	X	X
PTR030V0600	30	100	6.00	12.00	3.5	30.00	16.00	0.005	0.020	0.04	X	X
PTR030V0700	30	100	7.00	14.00	3.8	35.00	17.50	0.005	0.020	0.03	X	X
PTR030V0800	30	100	8.00	16.00	4.0	40.00	18.80	0.005	0.013	0.02	X	X
PTR030V0900	30	100	9.00	18.00	4.2	45.00	20.00	0.005	0.010	0.02	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_i (max.): Maximum resistance of device as supplied at 23°C unless otherwise specified.

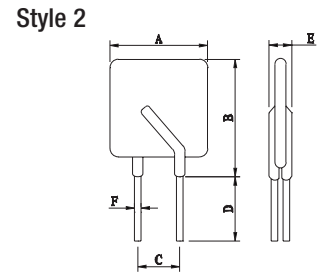
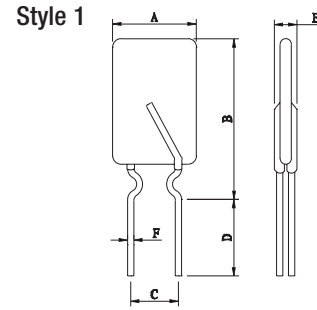
R_f (max.): Maximum resistance of device when measured one hour post reflow (SMD) or one hour post trip (radial-leaded device) at 23°C unless otherwise specified.



Powering Business Worldwide

Dimensions - mm

Part Number	A Max.	B Max Lead Type		C	D Min.	E Max.	F	Figure/Lead Style	
		Straight (-TR)	Kink (-TR1)					Straight TR	Kink TR1
PTR030V0090	7.4	12.2	12.2	5.0±0.8	7.6	3.0	0.5±0.02	2	1
PTR030V0110	7.4	14.2	14.2	5.0±0.8	7.6	3.0	0.5±0.02	2	1
PTR030V0135	8.9	13.5	13.5	5.0±0.8	7.6	3.0	0.5±0.02	2	1
PTR030V0160	8.9	15.2	15.2	5.0±0.8	7.6	3.0	0.5±0.02	2	1
PTR030V0185	10.2	15.7	15.7	5.0±0.8	7.6	3.0	0.5±0.02	2	1
PTR030V0250	11.4	18.3	20.5	5.0±0.8	7.6	3.0	0.5±0.02	2	1
PTR030V0300	11.4	17.3	21.8	5.0±0.8	7.6	3.0	0.8±0.02	2	1
PTR030V0400	14.0	20.1	24.6	5.0±0.8	7.6	3.0	0.8±0.02	2	1
PTR030V0500	14.0	24.9	26.6	10.0±0.8	7.6	3.0	0.8±0.02	2	1
PTR030V0600	16.5	24.9	29.4	10.0±0.8	7.6	3.0	0.8±0.02	2	1
PTR030V0700	19.1	26.7	31.2	10.0±0.8	7.6	3.0	0.8±0.02	2	1
PTR030V0800	21.6	29.2	33.7	10.0±0.8	7.6	3.0	0.8±0.02	2	1
PTR030V0900	24.1	29.7	34.2	10.0±0.8	7.6	3.0	0.8±0.02	2	1



Packaging/Taping Specifications

Description	IEC Mark	Dimension (mm)	Tolerance (mm)
Sprocket hole pitch	P ₀	12.7	0.3
Ordinate to adjacent component lead PTR030V0090~PTR030V0300	P ₁	3.6	1.0
Ordinate to adjacent component lead PTR030V0400	P ₁	3.45	1.0
Ordinate to adjacent component lead PTR030V0500~PTR030V0900	P ₁	7.3	1.0
Device pitch PTR030V0090~PTR030V0300	P	12.7	1.0
Device pitch PTR030V0400~PTR030V0900	P	25.4	1.0
Lead spacing	C	*	--
Carrier tape width	W	18	1.0
Top distance between tape edges	W ₀	3.0	Max.
Hold-down tape width	W ₁	12	1.0
Sprocket hole position	W ₂	9.0	+0.75/-0.5
Abscissa to top PTR030V0090~PTR030V0300	H ₁	32.2	Max.
Abscissa to top PTR030V0400~PTR030V0900	H ₁	47.5	Max.
Abscissa to plane (straight lead)	H	18.0	+2/-0
Abscissa to plane (kinked lead)	H ₀	16.0	±0.5
Sprocket hole diameter	D ₀	4	±0.2
Lead protrusion	L ₁	1	Max.
Tape thickness	t	0.9	Max.
Body lateral deviation	Δ _h	0	±1.0
Body tape plane deviation	Δ ₀	0	±0.1.3
Reel width	W ₃	56	Max.
Reel diameter		340	±10
Arbor hole diameter	n ₀	31	±1
Core diameter	n	80	Min.

* See Dimensions table.

Figure 1 - PTR030V0090-PTR030V0400

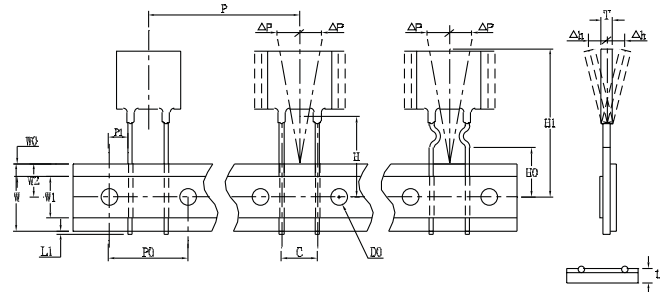
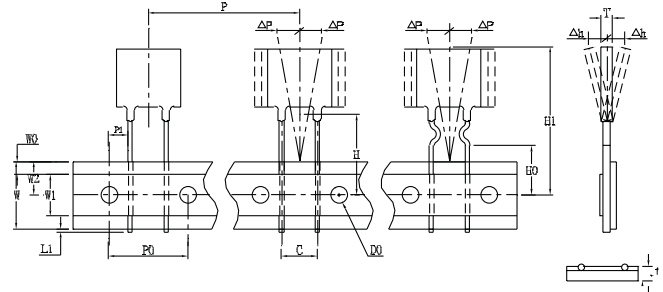
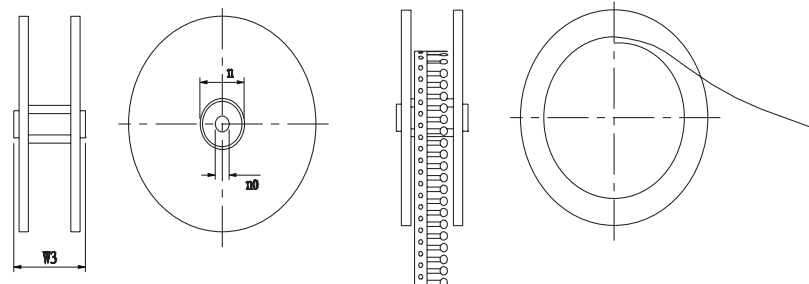


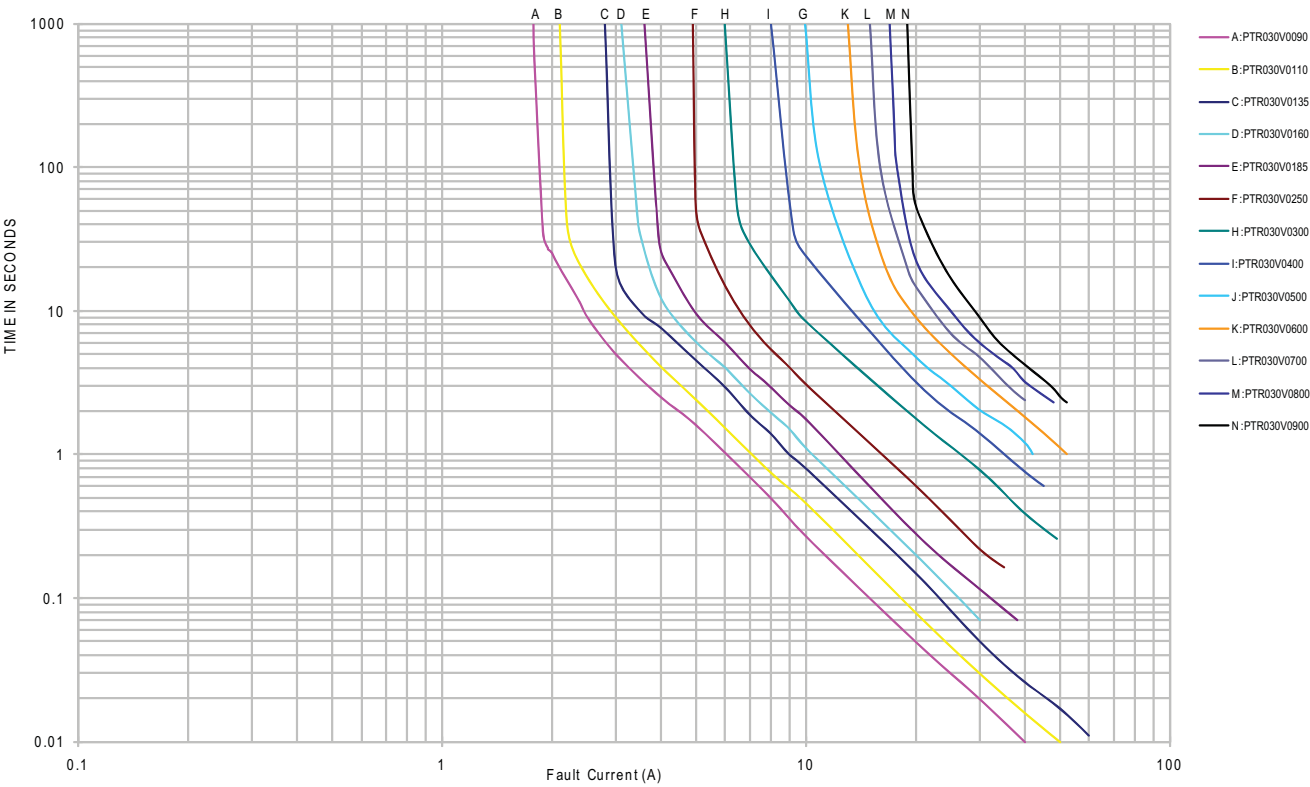
Figure 2 - PTR030V0500-PTR030V0900



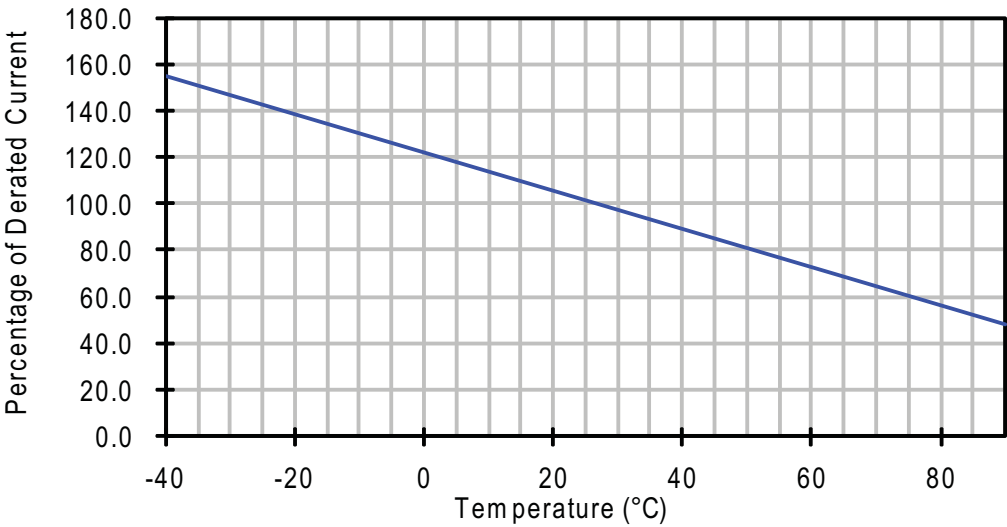
Reel specification



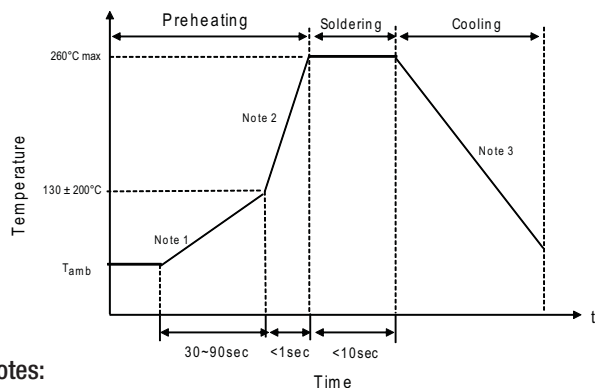
Time-to-Trip Curves at 23°C



Thermal Derating Curve



Recommended Wave Solder Profile.



Notes:

1. (1-3)°C/sec
2. Approximately 200°C/sec
3. 5°C/sec Maximum

Recommended Reworking Conditions with Soldering Iron

- Soldering Iron Tip Temperature: 360°C max.
- Solder Time: 3 seconds max.
- Distance from Thermistor: 2mm min.

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% R.H., 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

Material Composition

- Lead material:
 - PTR030V0090-PTR030V0250 Tin-plated copper clad steel
 - PTR030V0300-PTR030V0900 Tin-plated copper
- Insulating material: Cured epoxy resin meeting UL 94V0 requirements

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