

POLYRESET

Polymer PTC Resettable Fuse Radial Leaded Type

I (250V) series

(1) Features

1. Overcurrent and overtemperature protection device has a low resistance and high hold current.
2. Remotely resettable.
3. Latching(noncycling) operation.
4. Rugged, monolithic construction.
5. Protect power cross, power induction, lightning surge as defined ITU(K.20, K.21).

(2) Applications

1. General electronics.
2. Telephone line protection.
3. Telecommunication and networking.
4. Industrial control circuits.

(3) Ordering Information

PR - I D - 120 U - B
 (1) (2) (3) (4) (5) (6)

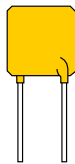
(1) Polyreset Product Designator

(2) Voltage Code

I : 250V

(3) Lead Type Code

D



(4) Hold current

(5) Epoxy uncoated

(6) Packing

B : Bulk Packing

T : Tape and Reel

(4) Shape and Dimension

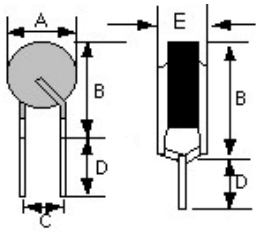


Fig.1

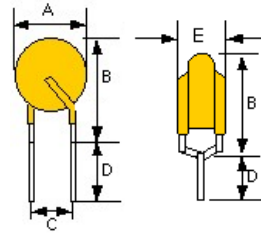


Fig.2

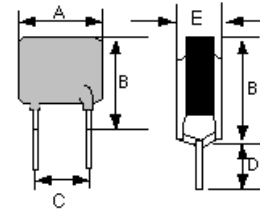


Fig.3

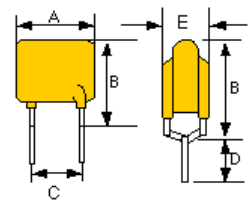


Fig.4

Unit : millimeters(inches)

Part number	A max.	B max.	C typ.	D min.	E max.	Figure
PR-IB-080 -□	5.80 (0.19)	9.90 (0.37)	5.00 (0.20)	4.70 (0.19)	4.60 (0.18)	2
PR-IB-080U-□	4.80 (0.23)	9.30 (0.37)	5.00 (0.20)	4.70 (0.19)	3.80 (0.15)	1
PR-IB-110U-□	5.30 (0.21)	9.40 (0.37)	5.00 (0.20)	4.70 (0.19)	3.80 (0.15)	1
PR-ID-120U-□	6.00 (0.24)	10.00 (0.40)	5.00 (0.20)	4.70 (0.19)	3.80 (0.15)	3
PR-ID-120 -□	6.50 (0.26)	11.00 (0.43)	5.00 (0.20)	4.70 (0.19)	4.60 (0.18)	4
PR-ID-145U-□	6.00 (0.24)	10.00 (0.40)	5.00 (0.20)	4.70 (0.19)	3.80 (0.15)	3
PR-ID-145 -□	6.50 (0.26)	11.00 (0.43)	5.00 (0.20)	4.70 (0.19)	4.60 (0.18)	4
PR-ID-180U-□	10.4 (0.41)	12.60 (0.50)	5.00 (0.20)	4.70 (0.19)	3.60 (0.14)	3
PR-ID-180- □	11.0 (0.43)	13.60 (0.54)	5.00 (0.20)	4.70 (0.19)	4.40 (0.17)	4

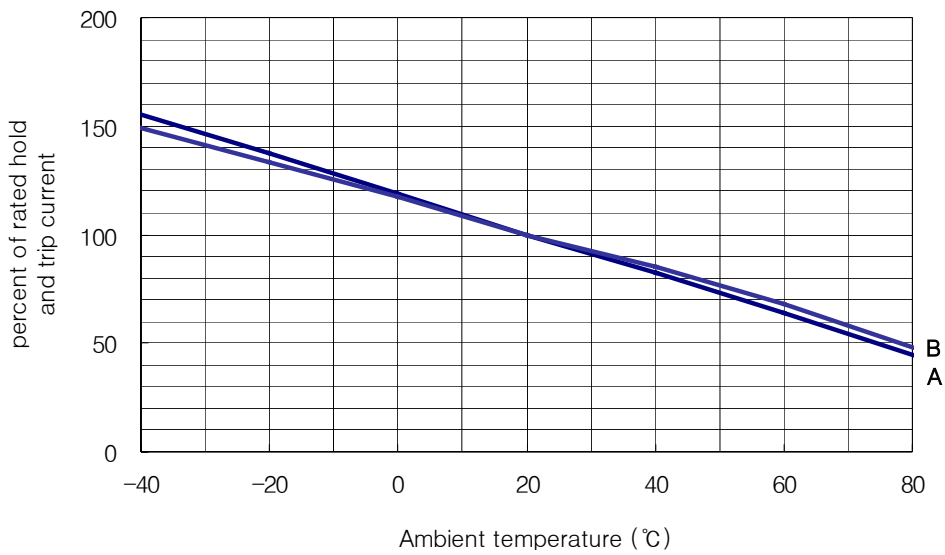
(5) Specifications

◆ Electrical Characteristics (PR-I series)

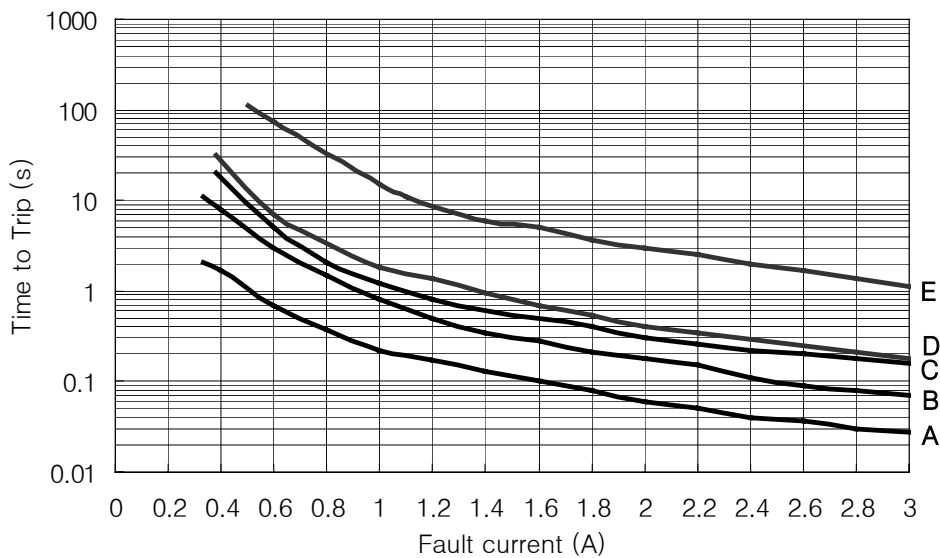
Part number	$V_{\max \text{ interrupt}}$ (AC V_{rms})	$V_{\max \text{ operating}}$ (DC V)	I_{\max} (A)	I_H (mA)	I_T (mA)	$P_d \text{ typ.}$ (W)	Initial resistance		Post trip resistance R1 max (Ω)	Time to trip (nom/max [*])	
							Rmin (Ω)	Rmax (Ω)		(A)	(s)
PR-IB-080 -□	250	60	3	80	160	1.0	14.0	20.0	33.0	0.35	3.0 [*]
PR-IB-080U-□	250	60	3	80	160	1.0	15.0	22.0	33.0	0.35	3.0 [*]
PR-IB-110U-□	250	60	3	110	220	1.0	5.0	9.0	12.0	1	0.75
PR-ID-120U-□	250	60	3	120	240	1.0	6.0	10.0	13.0	1	1.0
PR-ID-120 -□	250	60	3	120	240	1.0	4.0	8.0	10.0	1	1.5
PR-ID-120TA-□	250	60	3	120	240	1.0	6.0	9.0	12.0	1	0.7
PR-ID-120TB-□	250	60	3	120	240	1.0	8.0	12.0	15.0	1	0.7
PR-ID-145U-□	250	60	3	145	290	1.0	3.5	6.5	9.0	1	2.0
PR-ID-145 -□	250	60	3	145	290	1.0	3.0	6.0	9.0	1	2.5
PR-ID-180U-□	250	60	10	180	500	1.0	0.8	2.0	4.0	1	15.0
PR-ID-180- □	250	60	10	180	500	1.0	0.6	1.8	4.0	1	15.5

◆ Hold current vs. Temperature (PR-I series)

Part number	Maximum ambient operating temperature (°C)								
	-40	-20	0	20	40	50	60	70	85
PR-IB-080/080U	0.124	0.110	0.095	0.080	0.066	0.059	0.051	0.044	0.033
PR-IB-110U	0.171	0.151	0.131	0.110	0.091	0.081	0.071	0.061	0.046
PR-ID-120/120U/120TA/120TB	0.186	0.165	0.143	0.120	0.099	0.088	0.077	0.066	0.050
PR-ID-145/145U	0.225	0.199	0.172	0.145	0.119	0.106	0.093	0.080	0.060
PR-ID-180/180U	0.269	0.240	0.211	0.180	0.153	0.138	0.123	0.109	0.087



◆ Typical time to trip at 20°C (PR-I series)



(6) Physical Characteristics

Lead Material	22 AWG Sn plated Cu (0.026in/0.65mm)
Insulating Material	Cured, flame-retardant epoxy polymer, meets UL 94V-O requirements

(7) Terms and Description

1. **Hold current (I_H)** : maximum current at which the device will not trip at 20°C
2. **Trip current (I_T)** : minimum current at which the device will always trip at 20°C ($2 \times I_H$)
3. **Typical power dissipation (P_a)** : typical amount of power dissipation by the device when in tripped state in 20°C still air environment
4. **R_{min}** : Minimum device resistance at 20°C prior to tripping
5. **R_{max}** : Maximum device resistance at 20°C prior to tripping
6. **R_{1max}** : Maximum device resistance at 20°C measured 1 hour post trip
7. **I_{max}** : Maximum interrupt current.
8. **$V_{max\ interrupt}$** : Under specified conditions this is the highest voltage that can be applied to the device at the maximum current. Devices have been designed to trip safely under higher power cross conditions, like telecommunication standards(UL60950, GR1089 etc.), to assist equipment recognition in meeting the appropriate industry conditions.
9. **$V_{max\ operating}$** : For telecommunications devices this is the voltage we have used to obtain component recognition under UL1434.

(8) Packaging Information

Specification	Bulk Bag Quantity	Tape and Reel Quantity	AMMO Pack	Standard Package (B / T / A)
PR-IB-080 -□	500	1500	-	10000/ 7500/ -
PR-IB-080U-□	500	1500	-	10000/ 7500/ -
PR-IB-110U-□	500	1500	-	10000/ 7500/ -
PR-ID-120U-□	500	1500	-	10000/ 7500/ -
PR-ID-120 -□	500	1500	-	10000/ 7500/ -
PR-ID-120TA-□	500	1500	-	10000/ 7500/ -
PR-ID-120TB-□	500	1500	-	10000/ 7500/ -
PR-ID-145U-□	500	1500	-	10000/ 7500/ -
PR-ID-145 -□	500	1500	-	10000/ 7500/ -
PR-ID-180U-□	500	1500	-	10000/ 7500/ -
PR-ID-180- □	500	1500	-	10000/ 7500/ -

(9)Tape and Reel Specification

Devices taped using EIA468-B/IEC286-2 standards. See table below and Figures 1 and 2 for details.

Dimension Description	IEC Mark	EIA Mark	Dimensions	
			Dim.(mm)	Tol.(mm)
Carrier tape width	W	W	18	-0.5/+1.0
Hold down tape width	W ₀	W ₄	5	min.
Top distance between tape edges	W ₂	W ₆	3	max.
Sprocket hole position	W ₁	W ₅	9	-0.5/+0.75
Sprocket hole diameter*	D ₀	D ₀	4	±0.2
Abscissa to plane (straight lead)	H	H	18.5	±3.0
Abscissa to plane (kinked lead)	H ₀	H ₀	16	-0.5/+0.6
Abscissa to top	H ₁	H ₁	32.2	max.
Overall width with lead protrusion	-	C ₁	43.2	max.
Overall width without lead protrusion	-	C ₂	42.5	max.
Lead protrusion	l ₁	L ₁	1.0	max.
Protrusion of cut out	L	L	11	max.
Protrusion beyond hold down tape	l ₂	l ₂	Not specified	
Sprocket hole pitch	P ₀	P ₀	12.7	±0.3
Pitch tolerance	-	-	20 consec.	±1
Device pitch	-	-	12.7	±0.3
Tape Thickness	t	t	0.9	max.
Overall tape and lead thickness	t ₁	t ₁	2.0	max.
Splice sprocket hole alignment	-	-	0	±0.3
Body lateral deviation	Δh	Δh	0	±1.0
Body tape plane deviation	Δp	Δp	0	±1.3
Ordinate to adjacent component lead*	ΔP ₁	P ₁	3.81	±0.7
Lead spacing	F	F	5.08	-0.5/+0.6
Reel width	w	w ₂	56	max.
Reel diameter	d	a	370	max.
Space between flanges less device*	-	w ₁	4.75	±3.25
Arbor hole diameter	f	c	26	±12.0
Core diameter	h	n	91	max.
Box	-	-	64/372/362	max.
Consecutive missing places	-	-	none	-
Empty places per reel	-	-	0.1%	max.

*Differs from EIA specification.

EIA Referenced

Taped Component Dimension

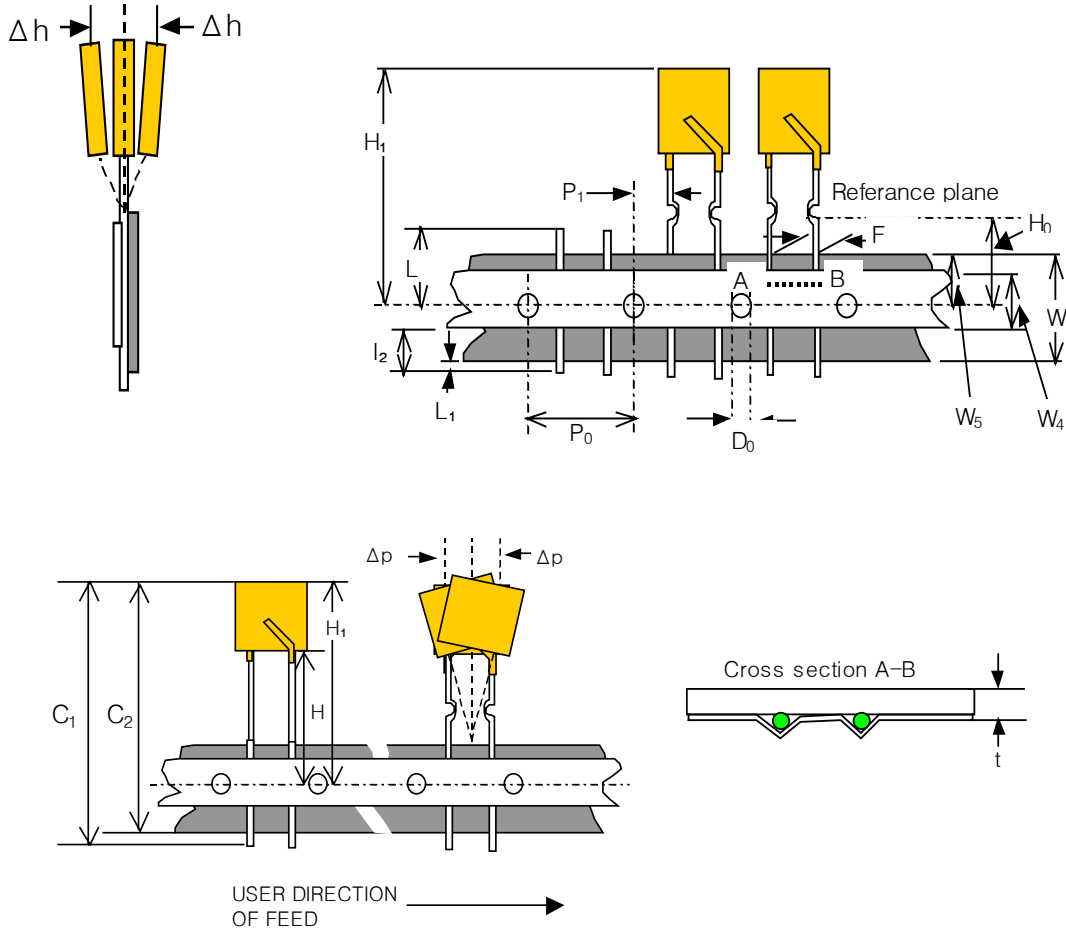


Figure 1

Reel Dimension

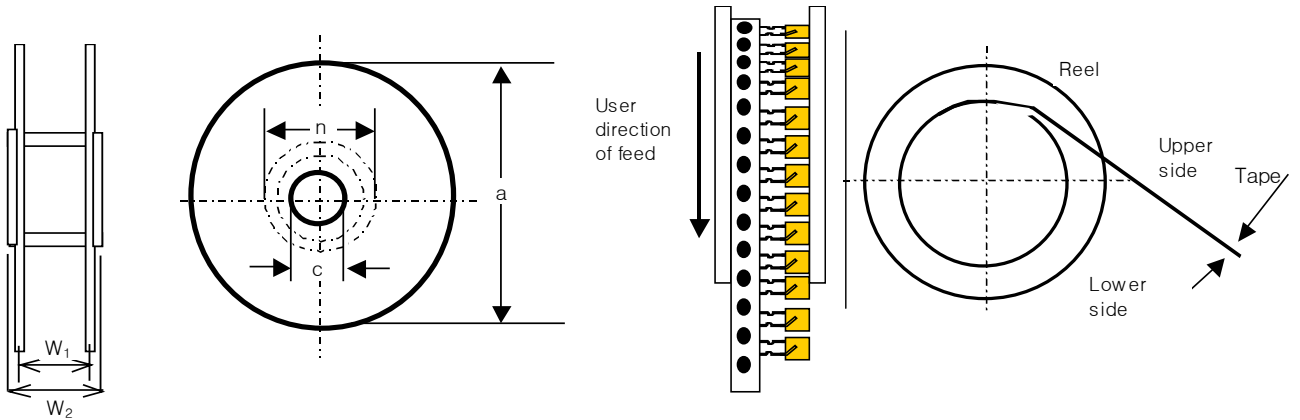


Figure 2