

# POLYRESET

*Polymer PTC Resettable Fuse Strap Type*

## **SP series**

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### **(1) Features**

1. Overcurrent and overtemperature protection device has a low resistance and high hold current.
2. Axial leaded.
3. Fully compatible with current industry standards.
4. Weldable nickel terminals.
5. Very low internal resistance.
6. Available in lead-free version.

### **(2) Applications**

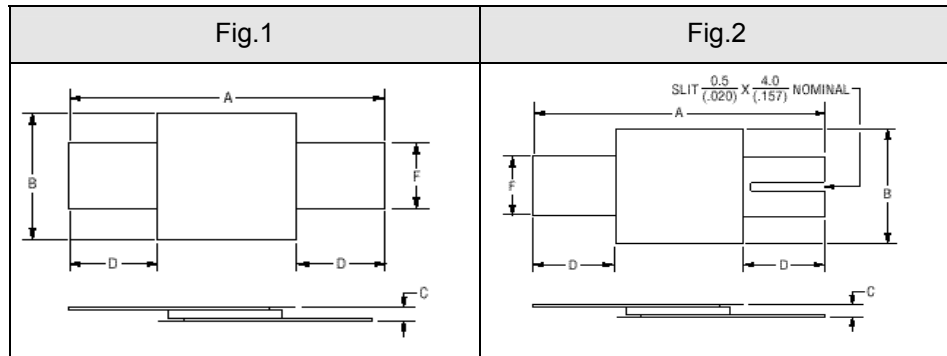
1. General electronics.
2. Rechargeable battery pack protection.
3. Provides overcurrent protection with 125°C trip temperature.

### **(3) Ordering Information**

PR - SP - 120 S - B  
(1) (2) (3) (4) (5)

- (1) Polyreset Product Designator
- (2) Product Characteristics ex : SP, LS, LR, VS
- (3) Hold Current (×0.01 Amp)
- (4) Electrode Type
  - none : Standard
  - S : Split
  - L : Long
  - RU : Radial Untaped
- (5) Packaging ex. B : Bulk

## (4) Shape and Dimension



Unit : millimeters(inches)

Part number	A max.	B max.	C typ.	D min.	F max.	Fig
PR-SP-120-□	22.1(0.870)	5.2(0.205)	1.0(0.039)	7.5(0.295)	4.1(0.161)	1
PR-SP-120S-□	22.1(0.870)	5.2(0.205)	1.0(0.039)	7.5(0.295)	4.1(0.161)	2
PR-SP-150-□	23.4(0.921)	11.0(0.433)	1.1(0.043)	5.5(0.217)	5.4(0.213)	1
PR-SP-175-□	23.1(0.909)	5.2(0.205)	1.0(0.039)	5.5(0.217)	4.1(0.161)	1
PR-SP-175S-□	23.1(0.909)	5.2(0.205)	1.0(0.039)	5.5(0.217)	4.1(0.161)	2
PR-SP-200-□	23.4(0.921)	11.0(0.433)	1.1(0.043)	7.6(0.299)	5.4(0.213)	1
PR-SP-350-□	31.8(1.252)	13.5(0.531)	1.1(0.043)	8.9(0.350)	6.6(0.260)	1
PR-SP-420-□	32.4(1.276)	13.6(0.535)	1.1(0.043)	7.5(0.295)	6.6(0.260)	1

## (5) Specifications

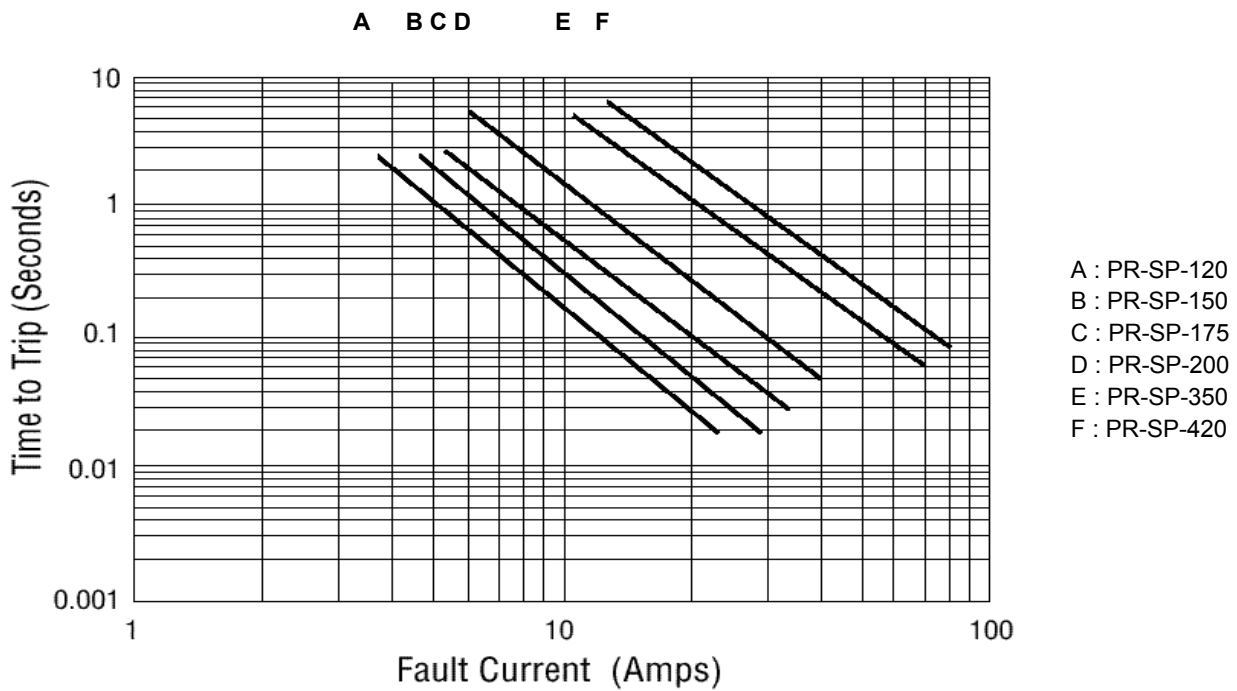
### ◆ Electrical Characteristics

Part number	V <sub>max</sub> (V)	I <sub>max</sub> (A)	I <sub>H</sub> (A)	I <sub>T</sub> (A)	Max.time to trip(s) @5×I <sub>H</sub>	P <sub>d</sub> (W)	Initial resistance		Post trip resistance
							Rmin (Ω)	Rmax (Ω)	R1 max (Ω)
PR-SP-120- □	15	100	1.20	2.70	5.0	1.20	0.085	0.160	0.220
PR-SP-120S-□	15	100	1.20	2.70	5.0	1.20	0.085	0.160	0.220
PR-SP-150- □	15	100	1.50	3.00	5.0	1.30	0.050	0.090	0.110
PR-SP-175- □	15	100	1.75	3.80	4.0	1.50	0.050	0.090	0.120
PR-SP-175S-□	15	100	1.75	3.80	4.0	1.50	0.050	0.090	0.120
PR-SP-200- □	30	100	2.00	4.40	4.0	1.90	0.030	0.060	0.080
PR-SP-350- □	30	100	3.50	6.30	3.0	2.50	0.017	0.031	0.040
PR-SP-420- □	30	100	4.20	7.60	6.0	2.90	0.012	0.024	0.040

◆ *Hold current vs. Temperature*

Part number	Maximum ambient operating temperature (°C)								
	-40	-20	0	20	40	50	60	70	85
PR-SP-120-□	1.90	1.70	1.50	1.20	1.00	0.90	0.80	0.70	0.50
PR-SP-120S-□	1.90	1.70	1.50	1.20	1.00	0.90	0.80	0.70	0.50
PR-SP-150-□	2.20	2.00	1.80	1.50	1.30	1.10	1.00	0.90	0.70
PR-SP-175-□	2.50	2.30	2.00	1.70	1.50	1.30	1.20	1.10	0.90
PR-SP-175S-□	2.50	2.30	2.00	1.70	1.50	1.30	1.20	1.10	0.90
PR-SP-200-□	3.20	2.80	2.50	2.00	1.70	1.60	1.40	1.20	0.90
PR-SP-350-□	5.40	4.80	4.30	3.50	3.00	2.80	2.50	2.20	1.70
PR-SP-420-□	6.40	5.70	5.10	4.20	3.60	3.30	3.00	2.60	2.10

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



## (6) Environmental Characteristics

ITEM	REQUIREMENT	TEST CONDITION
Operating/Storage Temperature		-40°C to +85°C
Maximum Device Surface Temperature in Tripped state		125°C
Passive Aging	±5% typical resistance change	+85°C, 1000 hours
Humidity Aging	±5% typical resistance change	+85°C, 85% R.H. 7days
Vibration	No change	MIL-STD-883C, Condition A

## (7) Test Procedures And Requirement

ITEM	REQUIREMENT	TEST CONDITION
Visual/Mech.	Per physical description	Verify dimensions and materials
Resistance	$R_{min} \leq R \leq R_{max}$	In still air @23°C
Time to Trip	$T \leq \text{max. time to trip(seconds)}$	At specified current, $V_{max}$ , 23°C
Hold Current	No Trip	30min. at $I_{hold}$
Trip Cycle Test	No arching or burning	$V_{max}$ , $I_{max}$ , 100 cycles
Trip Endurance	No arching or burning	$V_{max}$ , 48hours

## (8) Physical Characteristics

Lead Material	Quarter-hard nickel
Insulating Material	Polyester tape

## (9) Terms and Description

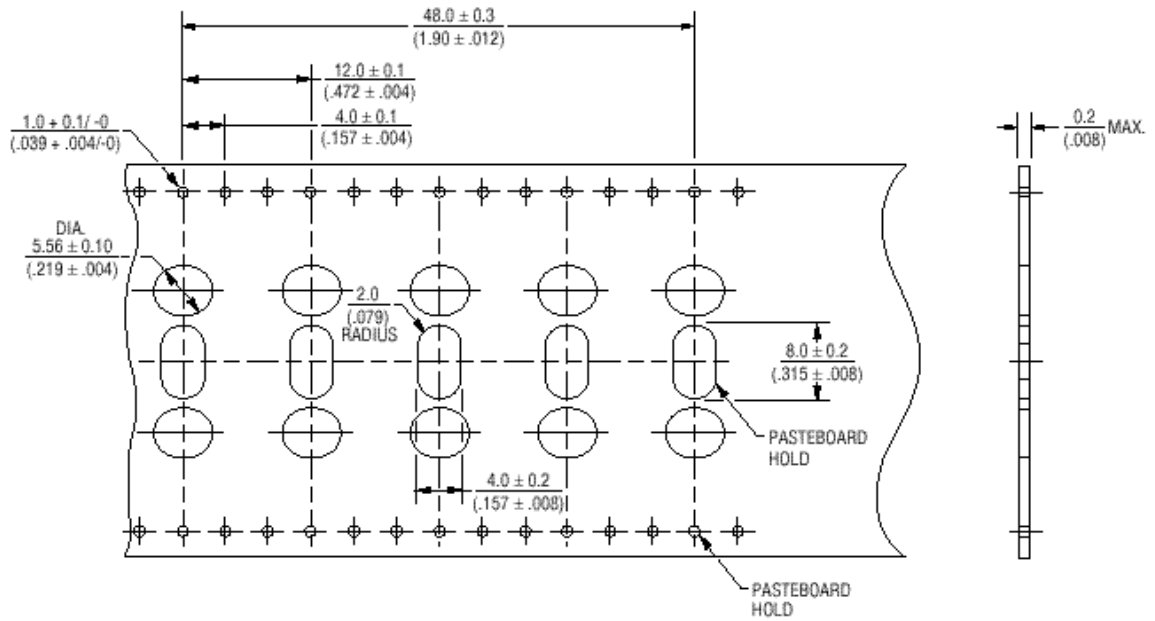
- Hold current ( $I_H$ )** : maximum current at which the device will not trip at 20°C
- Trip current ( $I_T$ )** : minimum current at which the device will always trip at 20°C ( $2 \times I_H$ )
- Typical power dissipation ( $P_d$ )** :typical amount of power dissipation by the device when in tripped state in 20°C still air environment
- $R_{min}$**  : Minimum device resistance at 20°C prior to tripping
- $R_{max}$**  : Maximum device resistance at 20°C prior to tripping
- $R_{1max}$**  : Maximum device resistance at 20°C measured 1 hour post trip

## (10) Packaging Information

- Bulk : 500pcs per bag
- Tape and Reel : Consult factory

## (11) Tape and Reel Specification

### Taped Component Dimensions



### Reel Dimensions

