

# POLYRESET

*Polymer PTC Resettable Fuse Strap Type*

## VS 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. Low switching temperature.
7. Available in lead-free version.

### (2) Applications

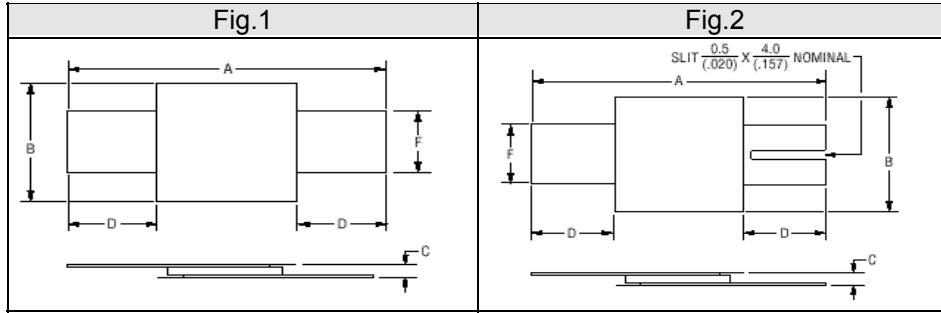
1. General electronics.
2. Any application that requires protection at low resistances.
3. Rechargeable battery pack protection : designed for NiMH and Li-Ion chemical characteristics.
4. Cellular phones.
5. Laptop computers.

### (3) Ordering Information

PR - VS - 170 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-VS-170-□	18.5(0.728)	5.3(0.209)	0.8(0.031)	5.8(0.228)	4.1(0.161)	1
PR-VS-170S-□	18.5(0.728)	5.3(0.209)	0.8(0.031)	5.8(0.228)	4.1(0.161)	2
PR-VS-210-□	23.7(0.933)	5.3(0.209)	0.8(0.031)	5.8(0.228)	4.1(0.161)	1
PR-VS-210L-□	26.5(1.043)	5.3(0.209)	0.8(0.031)	7.1(0.280)	4.1(0.161)	1
PR-VS-210S-□	23.7(0.933)	5.3(0.209)	0.8(0.031)	5.8(0.228)	4.1(0.161)	2

#### (5) Specifications

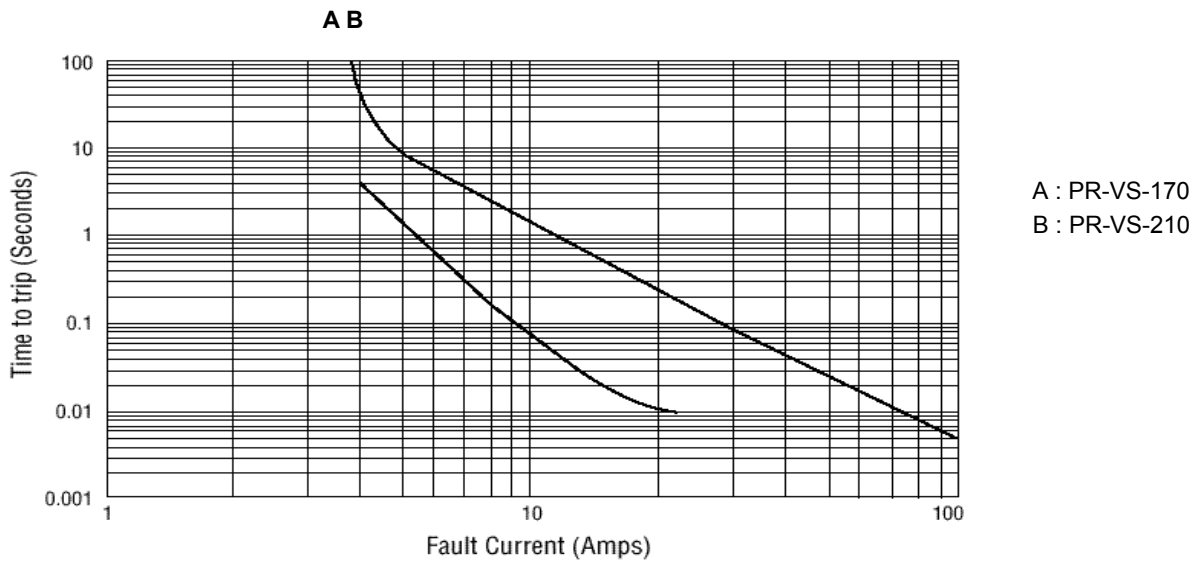
##### ◆ Electrical Characteristics

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-VS-170- □	16	100	1.70	3.40	3.0	1.4	0.030	0.052	0.105
PR-VS-170S-□	16	100	1.70	3.40	3.0	1.4	0.030	0.052	0.105
PR-VS-210- □	16	100	2.10	4.70	5.0	1.5	0.018	0.030	0.060
PR-VS-210L-□	16	100	2.10	4.70	5.0	1.5	0.018	0.030	0.060
PR-VS-210S-□	16	100	2.10	4.70	5.0	1.5	0.018	0.030	0.060

##### ◆ Hold current vs. Temperature

Part number	Maximum ambient operating temperature (°C)									
	-40	-20	0	20	40	50	60	70	85	
PR-VS-170-□	3.2	2.7	2.2	1.7	1.3	1.1	0.8	0.6	0.1	
PR-VS-170S-□	3.2	2.7	2.2	1.7	1.3	1.1	0.8	0.6	0.1	
PR-VS-210-□	4.1	3.5	2.9	2.1	1.6	1.3	1.0	0.7	0.1	
PR-VS-210L-□	4.1	3.5	2.9	2.1	1.6	1.3	1.0	0.7	0.1	
PR-VS-210S-□	4.1	3.5	2.9	2.1	1.6	1.3	1.0	0.7	0.1	

◆ Typical time to trip at 20°C ( PR-VS 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	±10% typical resistance change	+60°C, 1000 hours
Humidity Aging	±10% typical resistance change	+60°C, 85% R.H. 7days
Thermal shock	±5% typical resistance change	MIL-STD-220F, Method 107G +85°C to -40°C, 10times
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	30mim. 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

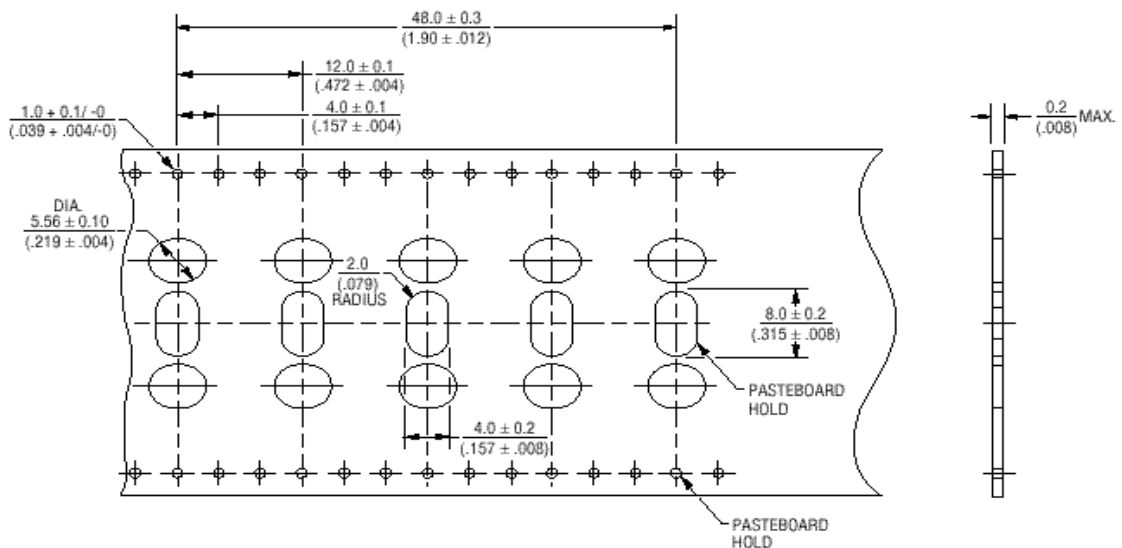
1. **Hold current ( $I_H$ )** : maximum current at which the device will not trip at 20°C
2. **Trip current ( $I_T$ )** : minimum current at which the device will always trip at 20°C ( $2 \times I_H$ )
3. **Typical power dissipation ( $P_d$ )** : typical amount of power dissipation by the device when 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

## (10) Packaging Information

- (1) Bulk : 500pcs per bag
- (2) Tape and Reel : Consult factory

## (11) Tape and Reel Specification

### Taped Component Dimensions



### Reel Dimensions

