

POLYRESET

Polymer PTC Resettable Fuse Strap Type

VL series

(1) Features

1. Overcurrent and overtemperature protection device has a low resistance and high hold current.
2. Industry's lowest internal resistance.
3. Switched at optimum temperature.
4. Axial leaded, with flexible design options available.
5. Fully compatible with current industry standards.
6. Weldable nickel terminals.

(2) Applications

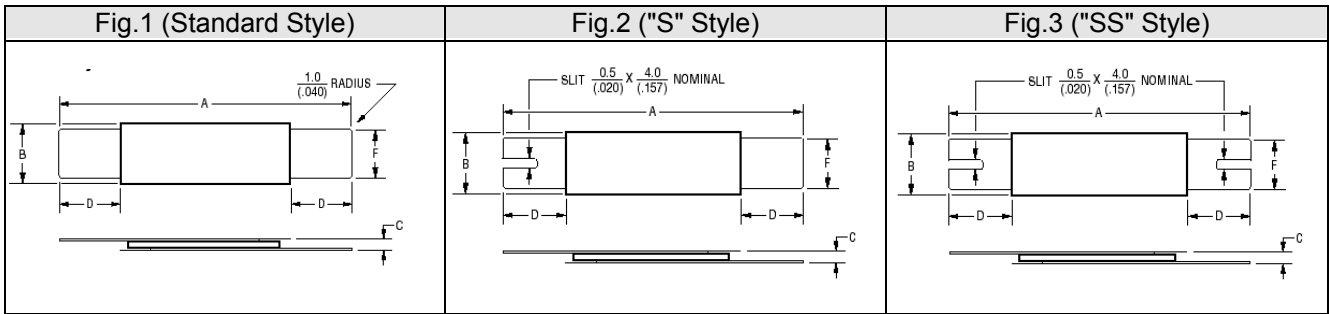
1. General electronics.
2. Any application that requires protection at low resistances.
3. Rechargeable battery pack protection : designed for NiMH and Li-Ion chemical characteristics.
4. Cellular phones.
5. Laptop computers.

(3) Ordering Information

PR - VL - 170 S - B
(1) (2) (3) (4) (5)

- (1) Polyreset Product Designator
- (2) Product Characteristics ex : VL, SP, LS, LR, VS
- (3) Hold Current (×0.01 Amp)
- (4) Electrode Type
 - none : Standard
 - S : Slotted Lead Option(one side)
 - SS : Slotted Lead Option(Two side)
 - L : Long
 - N : Narrow
 - RU : Radial Untaped
- (5) Packaging ex. B : Bulk

(4) Shape and Dimension



NOTE : All "s" style models available with 1 or 2 slots. The dimensions and shape of the leads can be modified to suit the battery pack design.
All models are available without insulation wrapping.

Unit : millimeters(inches)

Part number	A		B		C		D		F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
PR-VL-170-□	16.0 (0.630)	18.0 (0.709)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
PR-VL-170N-□	22.0 (0.866)	24.0 (0.945)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)
PR-VL-175-□	16.0 (0.630)	18.0 (0.709)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
PR-VL-175N-□	22.0 (0.866)	24.0 (0.945)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)
PR-VL-175NL-□	26.0 (1.024)	28.0 (1.102)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	6.1 (0.240)	7.8 (0.307)	2.4 (0.094)	2.6 (0.102)
PR-VL-210-□	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
PR-VL-210N-□	30.0 (1.181)	32.0 (1.260)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)
PR-VL-230-□	20.9 (0.823)	23.1 (0.909)	4.9 (0.193)	5.5 (0.216)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	3.9 (0.154)	4.1 (0.161)
PR-VL-230N-□	30.0 (1.181)	32.0 (1.260)	3.6 (0.142)	3.9 (0.153)	0.6 (0.024)	0.9 (0.035)	4.1 (0.161)	5.8 (0.228)	2.4 (0.094)	2.6 (0.102)

(5) Specifications

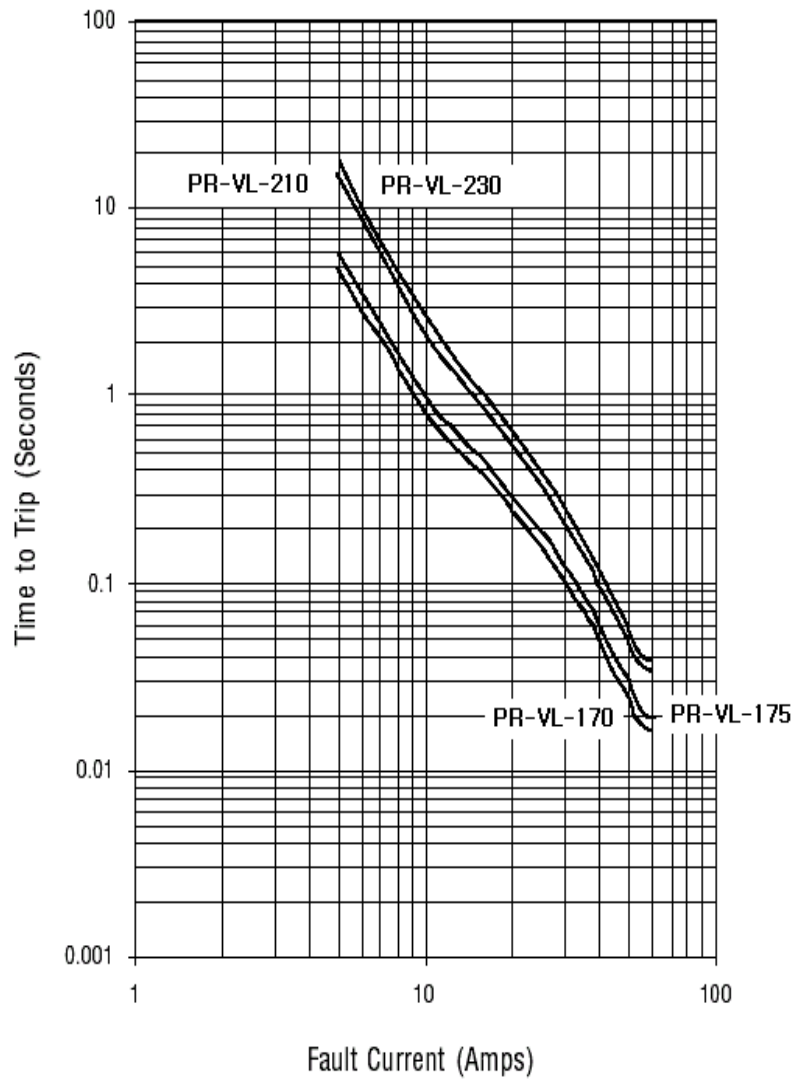
◆ Electrical Characteristics

Part number	V _{max} (V)	I _{max} (A)	I _H (A)	I _T (A)	Max.time to trip		P _d (W)	Initial resistance		Post trip resistance
					Current(A)	Seconds		R _{min} (Ω)	R _{max} (Ω)	R ₁ max (Ω)
PR-VL-170- □	10	100	1.7	4.1	8.5	5.0	2.1	0.018	0.032	0.064
PR-VL-175-□	10	100	1.75	4.2	8.5	5.0	2.1	0.017	0.030	0.060
PR-VL-210- □	10	100	2.1	5.0	10.5	5.0	2.4	0.010	0.020	0.040
PR-VL-230-□	10	100	2.3	5.2	12.5	5.0	2.6	0.010	0.018	0.036

◆ Hold current vs. Temperature

Part number	Ambient operating temperature (°C)			
	0	23	60	80
PR-VL-170-□	3.6	1.7	1.3	0.8
PR-VL-175-□	3.65	1.75	1.35	0.8
PR-VL-210-□	4.3	2.1	1.5	0.8
PR-VL-230-□	4.4	2.3	1.65	0.8

◆ Typical time to trip at 20°C (PR-VL 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. 1000 hours
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	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, 0.125mm nom.
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