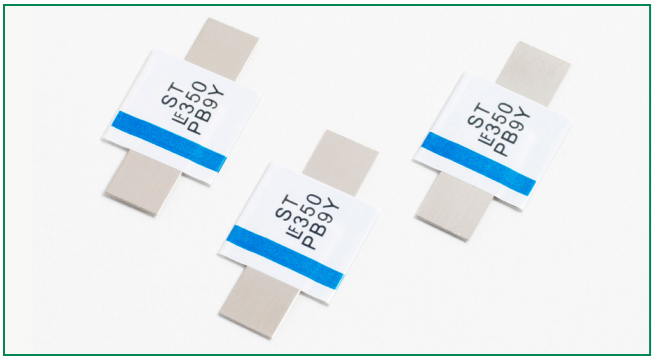
POLY-FUSE® Resettable PTCs

Axial Lead Battery Strap Type > ST Series

ST Series



Description

The new ST Series device provides reliable, noncycling protection against overcharging and short circuits events for rechargeable battery cells where resettable protection is desired.

Features

- RoHS compliant and lead–free
- Weldable Nickel terminals
- Low resistance
- Provides overcurrent protection at 125°C trip temperature

Agency Approvals

AGENCY	AGENCY FILE NUMBER
c UL us	E183209
TÜV	R50119583

Applications

- Rechargeable battery cell protection

Electrical Characteristics

Part Number	I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	P_d max. (W)	Maximum Time To Trip		Resistance			Agency Approvals	
						Current (A)	Time (Sec.)	R_{min} (Ω)	R_{typ} (Ω)	R_{1max} (Ω)	c UL us	TÜV
15ST175	1.75	3.8	15	100	2.5	8.75	5.00	0.050	0.090	0.120	X	X

I_{hold} = Hold current: maximum current device will pass without tripping in 20°C still air.
I_{trip} = Trip current: minimum current at which the device will trip in 20°C still air.
V_{max} = Maximum voltage device can withstand without damage at rated current (I max)
I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max})
P_d = Power dissipated from device when in the tripped state at 20°C still air.
R_{min} = Minimum resistance of device in initial (un-soldered) state.
R_{typ} = Typical resistance of device in initial (un-soldered) state.
R_{1max} = Maximum resistance of device at 20°C measured one hour after tripping or reflow soldering of 260°C for 20 sec.

Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.

Temperature Rerating

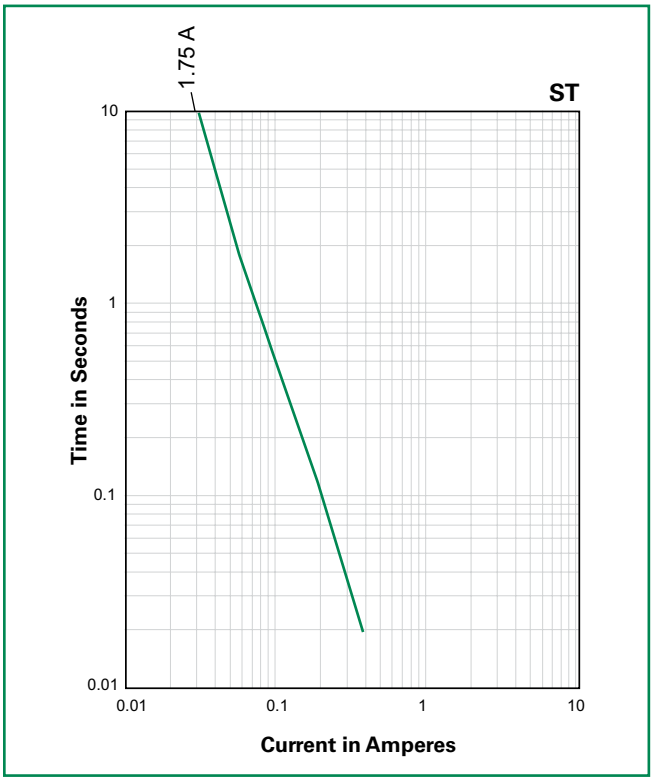
	Ambient Operation Temperature								
	-40°C	-20°C	0°C	20°C	40°C	50°C	60°C	70°C	85°C
Part Number	Hold Current (A)								
15ST175	2.50	2.30	2.00	1.75	1.50	1.30	1.20	1.10	0.90

WARNING

- Users shall independently assess the suitability of these devices for each of their applications
- Operation of these devices beyond the stated maximum ratings could result in damage to the devices and lead to electrical arcing and/or fire
- These devices are intended to protect against the effects of temporary over-current or over-temperature conditions and are not intended to perform as protective devices where such conditions are expected to be repetitive or prolonged in duration
- Exposure to silicon-based oils, solvents, electrolytes, acids, and similar materials can adversely affect the performance of these PPTC devices
- These devices undergo thermal expansion under fault conditions, and thus shall be provided with adequate space and be protected against mechanical stresses
- Circuits with inductance may generate a voltage (L di/dt) above the rated voltage of the PPTC device.

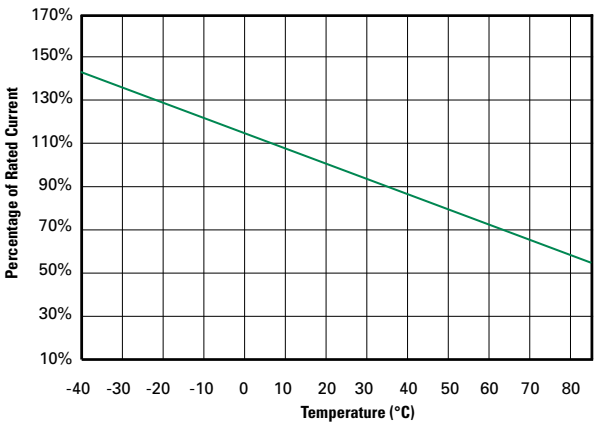
Revised: 03/22/17

Average Time Current Curves



The average time current curves and Temperature Rerating curve performance is affected by a number or variables, and these curves provided as guidance only. Customer must verify the performance in their application.

Temperature Rerating Curve



Note:
Typical Temperature rerating curve, refer to table for derating data

Physical Specifications

Lead Material	0.13mm nominal thickness, quarter-hard Nickel
Insulating Material	Polyester tape

Environmental Specifications

Operating/Storage Temperature	-40°C to +85°C
Maximum Device Surface Temperature in Tripped State	125°C
Passive Aging	+70°C, 1000 hours -/+5% typical resistance change
Humidity Aging	+85°C, 85% R.H., 7 days, -/+5% typical resistance change
Vibration	MIL–STD–883, Condition A, No change

Additional Information

Datasheet | **Resources** | **Samples**

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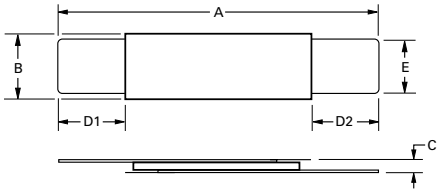
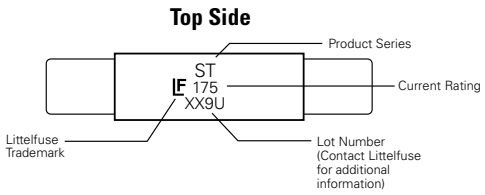
Dimensions



Part Number	A				B				C				D1		D2		E			
	Inches		mm		Inches		mm		Inches		mm		Inches	mm	Inches	mm	Inches		mm	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Min.	Min.	Min	Max.	Min.	Max.
15ST175	0.82	0.91	20.9	23.1	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1.0	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1

Part Marking System



Part Ordering Number System

15 ST 175 U

- **QUANTITY CODE:** U = 500 (bulk)
- **LEAD OPTIONS:** Blank = standard
- **HOLD CURRENT** (Value divided by 100 = Hold Current in Amps)
- **SERIES**
- **VOLTAGE RATING (VDC)**

Packaging

Part Number	Ordering Number	I_{hold} (A)	I_{hold} Code	Packaging Option	Quantity	Quantity & Packaging Codes
15ST175	15ST175U	1.75	175	Bulk	500	U

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Littelfuse:

15ST120SU 15ST120U 15ST175SU 15ST175U 24ST200U 30ST200U 30ST350U 30ST420U