

### Description

The new LT 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
- Compact design saves board space
- Low resistance
- Provides overcurrent protection at 100°C trip temperature

### Applications

- Rechargeable battery cell protection
  - Mobile phones
  - Laptop computers

### Agency Approvals

AGENCY	AGENCY FILE NUMBER
	E183209
	R50082521

### Electrical Characteristics

Part Number	I <sub>hold</sub> (A)	I <sub>trip</sub> (A)	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	P <sub>d max.</sub> (W)	Maximum Time To Trip		Resistance			Agency Approvals	
						Current (A)	Time (Sec.)	R <sub>min</sub> (Ω)	R <sub>typ</sub> (Ω)	R <sub>1max</sub> (Ω)		
15LT070	0.7	1.5	15	100	1.0	3.50	5.00	0.100	0.200	0.340	X	X
15LT070S	0.7	1.5	15	100	1.0	3.50	5.00	0.100	0.200	0.340	X	X
24LT100	1.0	2.5	24	100	1.5	5.00	7.00	0.070	0.130	0.260	X	X
24LT100S	1.0	2.5	24	100	1.5	5.00	7.00	0.070	0.130	0.260	X	X
24LT100SS	1.0	2.5	24	100	1.5	5.00	7.00	0.070	0.130	0.260	X	X
24LT180	1.8	3.8	24	100	2.0	9.00	2.90	0.040	0.068	0.120	X	X
24LT180S	1.8	3.8	24	100	2.0	9.00	2.90	0.040	0.068	0.120	X	X
24LT180SS	1.8	3.8	24	100	2.0	9.00	2.90	0.040	0.068	0.120	X	X
24LT190	1.9	4.2	24	100	1.9	10.00	3.00	0.030	0.057	0.100	X	X
24LT190S	1.9	4.2	24	100	1.9	10.00	3.00	0.030	0.057	0.100	X	X
24LT260	2.6	5.2	24	100	2.3	13.0	5.0	0.025	0.042	0.076	X	X
24LT300	3.0	6.3	24	100	2.0	15.0	4.0	0.015	0.031	0.055	X	X
24LT310	3.1	6.0	24	100	2.5	16.0	5.0	0.018	0.030	0.055	X	X
24LT340	3.4	6.8	24	100	2.7	17.0	5.0	0.016	0.027	0.050	X	X

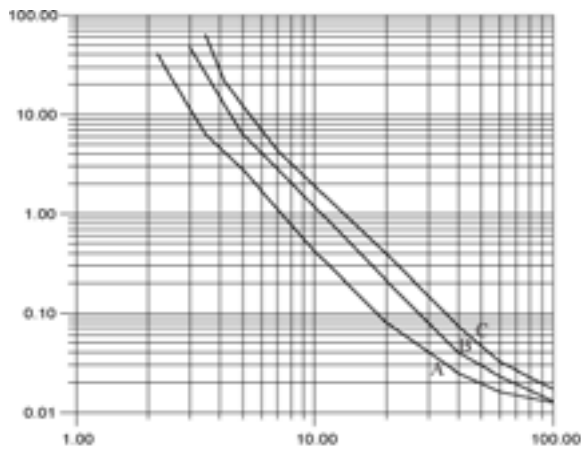
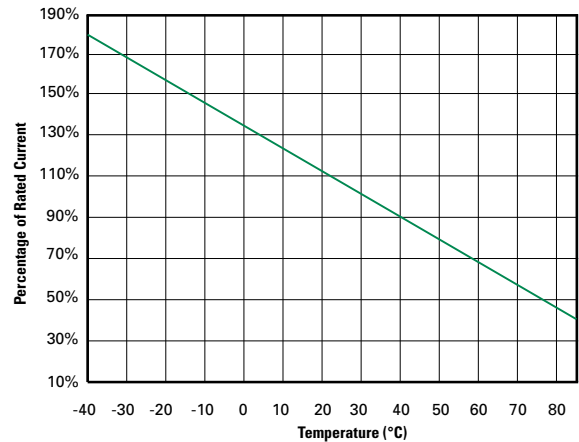
I<sub>hold</sub> = Hold current: maximum current device will pass without tripping in 20°C still air.  
 I<sub>trip</sub> = Trip current: minimum current at which the device will trip in 20°C still air.  
 V<sub>max</sub> = Maximum voltage device can withstand without damage at rated current (I<sub>max</sub>)  
 I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max</sub>)  
 P<sub>d</sub> = Power dissipated from device when in the tripped state at 20°C still air.  
 R<sub>min</sub> = Minimum resistance of device in initial (un-soldered) state.

R<sub>typ</sub> = Typical resistance of device in initial (un-soldered) state.  
 R<sub>1max</sub> = 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 Derating**

Part Number	Ambient Operation Temperature								
	-40°C	-20°C	0°C	20°C	40°C	50°C	60°C	70°C	85°C
	Hold Current (A)								
15LT070	1.20	1.09	0.85	0.70	0.50	0.45	0.35	0.28	0.16
15LT070S	1.20	1.09	0.85	0.70	0.50	0.45	0.35	0.28	0.16
24LT100	1.86	1.60	1.40	1.00	0.80	0.70	0.60	0.44	0.23
24LT100S	1.86	1.60	1.40	1.00	0.83	0.70	0.60	0.44	0.23
24LT100SS	1.86	1.60	1.40	1.00	0.83	0.70	0.60	0.44	0.23
24LT180	3.13	2.68	2.20	1.80	1.33	1.10	0.90	0.65	0.36
24LT180S	3.13	2.68	2.20	1.80	1.33	1.10	0.90	0.65	0.36
24LT180SS	3.13	2.68	2.20	1.80	1.33	1.10	0.90	0.65	0.36
24LT190	3.32	2.86	2.40	1.90	1.48	1.25	1.10	0.79	0.43
24LT260	4.30	3.72	3.10	2.60	1.98	1.69	1.40	1.11	0.60
24LT300	5.10	4.40	3.70	3.00	2.30	1.95	1.60	1.25	0.69
24LT310	5.36	4.58	3.70	3.10	2.36	2.01	1.70	1.30	0.71
24LT340	5.52	4.79	4.00	3.40	2.60	2.24	1.90	1.51	0.78

**Average Time Current Curves**

**A: 24LT100S**
**C: 24LT190**
**B: 24LT180**
**Temperature Derating Curve**


### Physical Specifications

<b>Terminal Material</b>	0.13mm nominal thickness, quarter-hard nickel
<b>Insulating Material</b>	Polyester tape

### Environmental Specifications

<b>Operating/Storage Temperature</b>	-40°C to +85°C
<b>Maximum Device Surface Temperature in Tripped State</b>	125°C
<b>Passive Aging</b>	+70°C, 1000 hours ±10% typical resistance change
<b>Humidity Aging</b>	+85°C, 85%R.H. 7days ±5% typical resistance change
<b>Vibration</b>	MIL-LTD-883C, Condition A No change

### Dimensions

Figure 1

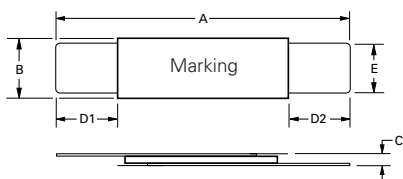


Figure 2

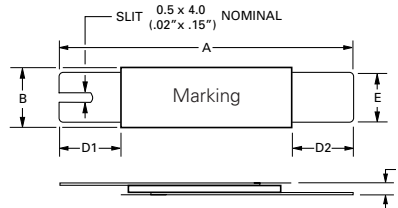
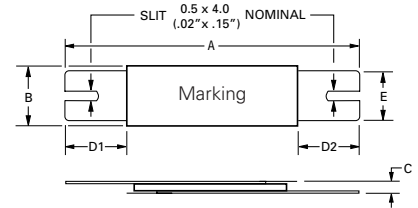
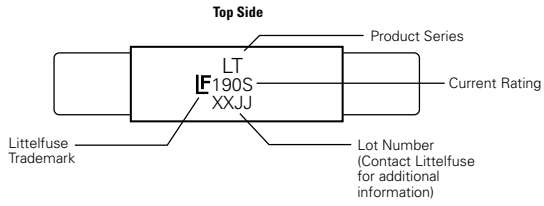
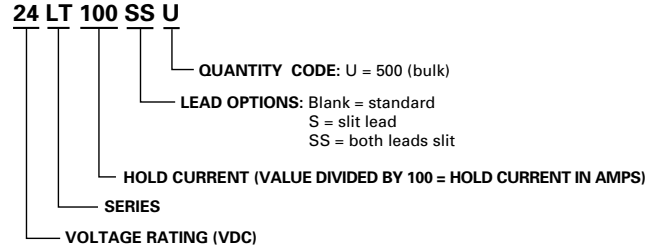


Figure 3



Part Number	A				B				C				D1		D2		E				Fig.
	Inches		mm		Inches		mm		Inches		mm		in.	mm	in.	mm	Inches		mm		
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
15LT070	0.78	0.87	19.9	22.1	0.19	0.20	4.9	5.2	0.03	0.05	0.7	1.2	0.22	5.5	0.22	5.5	0.01	0.22	3.9	4.1	1
15LT070S	0.78	0.87	19.9	22.1	0.19	0.20	4.9	5.2	0.03	0.05	0.7	1.2	0.22	5.5	0.22	5.5	0.01	0.22	3.9	4.1	2
24LT100	0.82	0.91	20.9	23.1	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1	1
24LT100S	0.82	0.91	20.9	23.1	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1	2
24LT100SS	0.82	0.91	20.9	23.1	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1	3
24LT180	0.94	1.02	24	26	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1	1
24LT180S	0.94	1.02	24	26	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1	2
24LT180SS	0.94	1.02	24	26	0.19	0.20	4.9	5.2	0.02	0.04	0.6	1	0.16	4.1	0.16	4.1	0.01	0.16	3.9	4.1	3
24LT190	0.84	0.92	21.3	23.4	0.40	0.43	10.2	11	0.02	0.04	0.5	1	0.20	5	0.20	5	0.01	0.20	4.8	5.4	1
24LT190S	0.84	0.92	21.3	23.4	0.40	0.43	10.2	11	0.02	0.04	0.5	1	0.20	5	0.20	5	0.01	0.20	4.8	5.4	2
24LT260	0.94	1.02	24	26	0.43	0.47	10.8	11.9	0.02	0.04	0.6	1	0.20	5	0.20	5	0.01	0.20	5.9	6.1	1
24LT300	1.12	1.25	28.4	31.8	0.51	0.53	13	13.5	0.02	0.04	0.5	1.1	0.25	6.3	0.25	6.3	0.00	0.25	6	6.6	1
24LT310	0.94	1.02	24	26	0.58	0.63	14.8	15.9	0.02	0.04	0.6	1	0.20	5	0.20	5	0.01	0.20	5.9	6.1	1
24LT340	0.94	1.02	24	26	0.58	0.63	14.8	15.9	0.02	0.04	0.6	1	0.20	5	0.20	5	0.01	0.20	5.9	6.1	1

**Part Marking System**

**Part Numbering System**

**Packaging**

$I_{hold}$ (A)	Packaging Option	Quantity	Quantity & Packaging Codes
All Ratings	Bulk	500	U