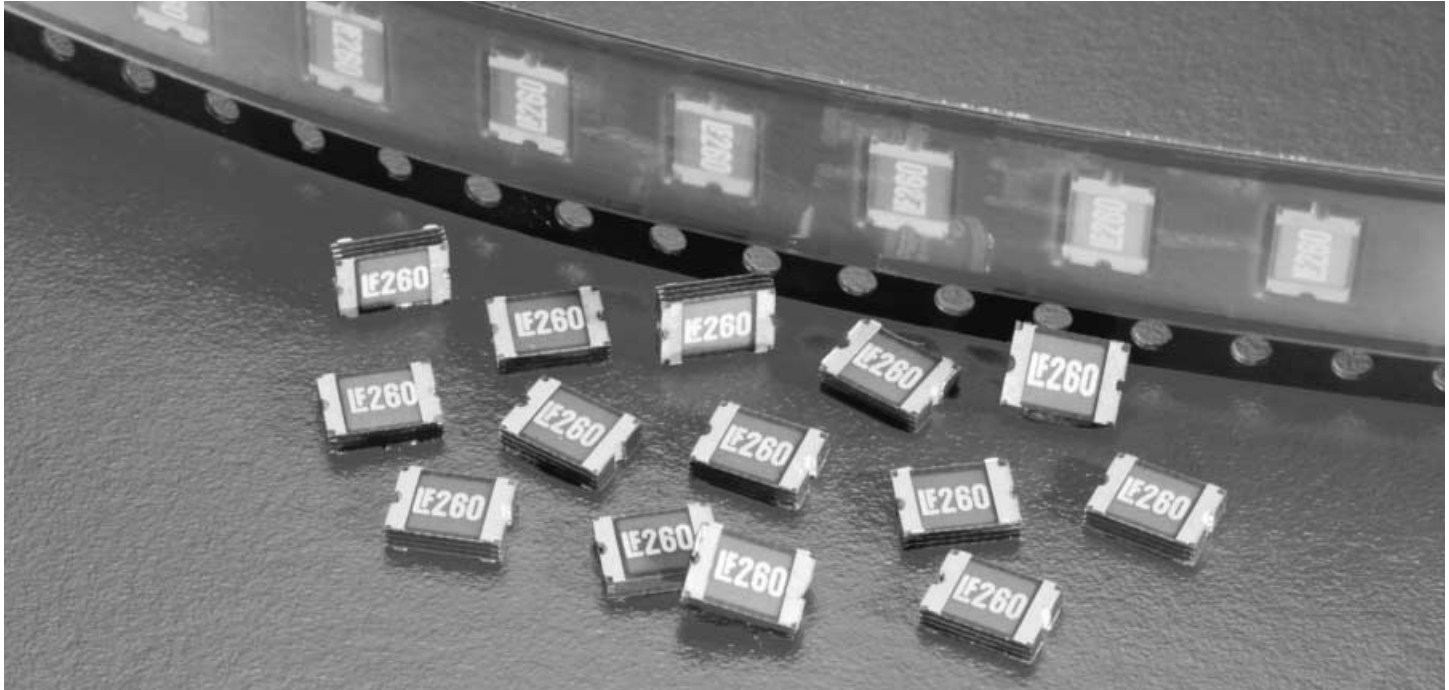


# Resettable PTCs

## Surface Mount PTC

### 1812L Series



- Complies with electronic industry environmental standards for lead reduction.

#### PHYSICAL SPECIFICATIONS:

**Terminal Material:** Tin Plated Copper

**Device Labeling:** Device is marked with LF and amperage rating.

**AGENCY APPROVALS:** Recognized under the Components Program of Underwriters Laboratories and the Acceptance program of CSA. TUV approved.

**AGENCY FILE NUMBERS:** UL E183209, CSA LR108832.

#### ENVIRONMENTAL SPECIFICATIONS:

**Passive Aging:** 85°C, 1000 Hours.

**Humidity Aging:** 85°C, 85% R.H., 100 hours.

**Thermal Shock:** 85°C / -40°C, 20 times.

**Vibration:** MIL-STD 202, Method 201, MIL-STD-883, Method 2007.

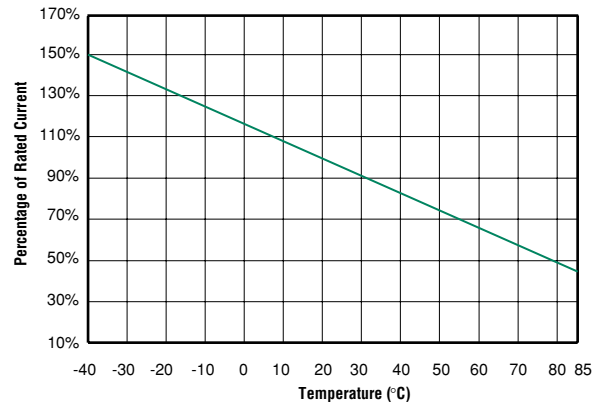
**Mechanical Shock:** MIL-STD-202, Method 213 test condition I (100 g's, 6 sec.).

**Solvent Resistance:** MIL-STD-202, Method 215.

**Operating/Storage Temperature:** -40°C to 85°C  
Device should remain in sealed bags prior to use.

**Packaging:** 12mm tape and reel carrier per EIA 481 Standard.  
Standard reel quantity: 0.50-1.60A: 2,000 devices on 7" reel (PRT Suffix).  
2.00-2.60A: 1,000 devices on 7" reel (MR Suffix).  
Optional reel quantity: 0.50-1.60A: 8,000 devices on 13" reel (ZRT Suffix).

#### Temperature Derating Curve:



#### Temperature Derating:

Part Number	Ambient Temperature									
	-40°C	-20°C	0°C	20°C	40°C	50°C	60°C	70°C	80°C	85°C
	<b>Hold Current (A)</b>									
1812L050	0.75	0.67	0.58	0.50	0.41	0.37	0.33	0.29	0.25	0.23
1812L075	1.13	1.00	0.87	0.75	0.62	0.56	0.50	0.43	0.37	0.34
1812L110	1.65	1.47	1.28	1.10	0.91	0.82	0.73	0.64	0.54	0.50
1812L125	1.88	1.67	1.46	1.25	1.04	0.93	0.83	0.72	0.62	0.56
1812L150	2.25	2.00	1.75	1.50	1.24	1.12	0.99	0.87	0.74	0.68
1812L160	2.40	2.13	1.86	1.60	1.33	1.19	1.06	0.92	0.79	0.72
1812L200	3.00	2.67	2.33	2.00	1.66	1.49	1.32	1.15	0.99	0.90
1812L260	3.90	3.47	3.03	2.60	2.16	1.94	1.72	1.50	1.28	1.17

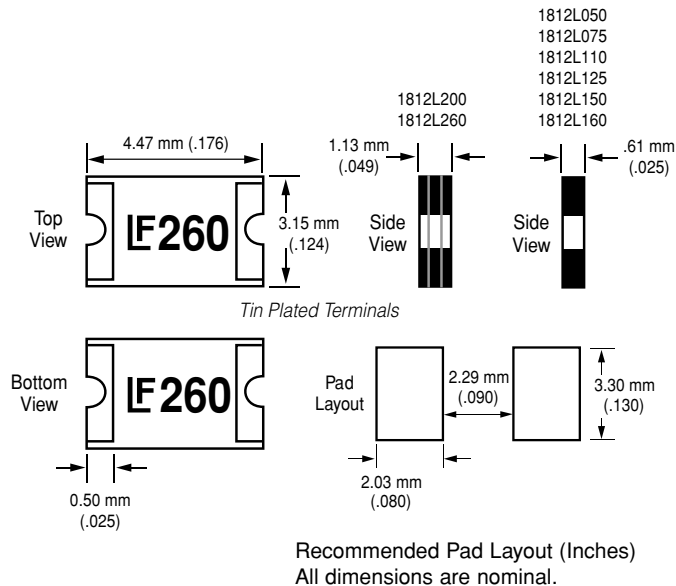
RESETTABLE PTCs

# Resettable PTCs

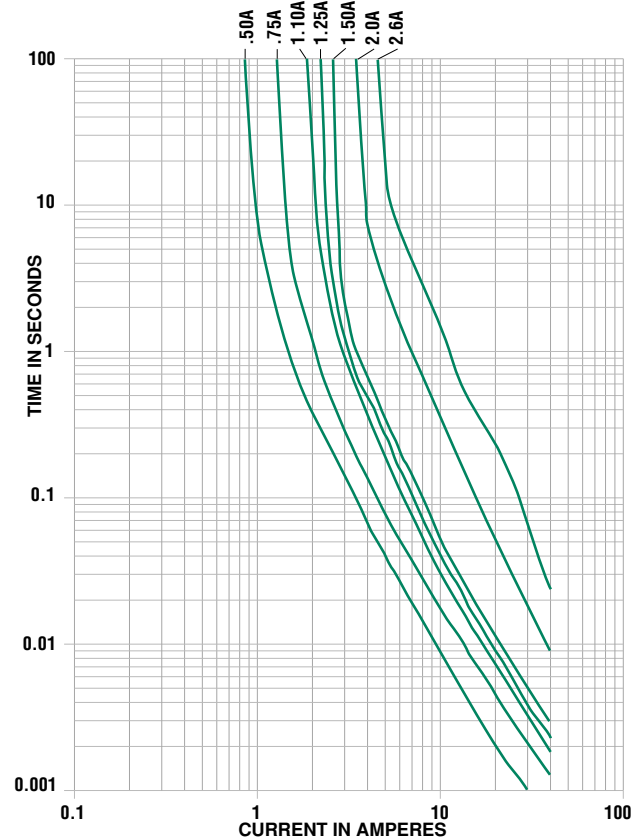
## Surface Mount PTC

### 1812L Series

#### Dimensions (Inches)



#### Average Time Current Curves



**Solderability:** Meets EIA specification RS186-9E and IPC/EIA J-STD-002, and IPC/EIA J-STD-001.

#### Soldering Parameters:

Reflow Solder — 245°C, 20 seconds maximum  
Wave Solder — 245°C, 10 seconds maximum

#### 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	
						Current (A)	Time (Sec)	$R_{IL}$ ( $\Omega$ )	$R_{AT}$ ( $\Omega$ )
1812L050	0.50	1.00	15.0	40	0.8	8.0	0.15	0.100	1.000
1812L075	0.75	1.50	13.2	40	0.8	8.0	0.30	0.060	0.420
1812L110	1.10	2.20	6.0	40	0.8	8.0	0.30	0.050	0.226
1812L125	1.25	2.50	6.0	40	0.8	8.0	0.30	0.040	0.184
1812L150	1.50	3.00	6.0	40	0.8	8.0	0.30	0.032	0.137
1812L160	1.60	3.20	6.0	40	0.8	8.0	0.30	0.032	0.099
1812L200	2.00	4.00	6.0	40	0.8	8.0	2.50	0.018	0.070
1812L260	2.60	5.20	6.0	40	0.8	8.0	2.50	0.010	0.050

- $I_{hold}$  = Hold Current: maximum current device will sustain for 4 hours 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.
- $R_{IL}$  = Minimum resistance of device in initial (un-soldered) state.
- $R_{AT}$  = Maximum measured resistance in the non-tripped state 1 hour after reflow with reflow conditions of 245°C for 20 sec.

**CAUTION:** Operation beyond the specified ratings may result in damage and possible arcing and flame.