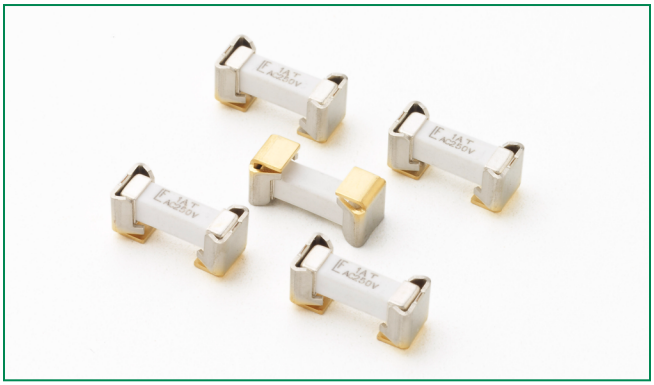
160 Series Fuse and Clip Assembly



Description

The 160 Series product is a metal fuse clip with pre-installed Littelfuse 443 Series Fuse. This fuse and clip combination can be automatically installed in PC Boards in one efficient manufacturing operation. It permits quick and easy fuse replacement without exposing the PC Boards and other components to risks of rework solder heat as required with direct surface mount fuses.

It is designed to enable compliance with the RoHS directive. This product is fully compatible with lead-free solder alloy and higher temperature profiles associated with lead-free assembly.

Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
PSE	NBK290416-JP1021	1.00A – 5.00A*
c UL us	E14721	0.5A - 5A

Note * - PSE/METI Certification is only applicable to the fuse. Clips do not require certification for the Japanese Market.

Features

- Offer low profile easily-replaceable fuse alternative compatible with automated PCB surface mount equipment
- Comes supplied with Littelfuse 443 Series 250V Nano2® Fuse
- RoHS compliant and Halogen Free
- Clip fully compatible with RoHS/lead-free solder alloys and higher temperature profiles associated with lead-free assembly
- 0.5A - 5A ampere rating available

Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
250%	120 seconds, Maximum

Applications

- AC/DC power adaptor
- Telecom equipment system power
- Portable system built-in AC/DC converter
- High voltage DC/DC converter
- Lighting System
- LED Lighting

Additional Information

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

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A²sec)	Nominal Voltage Drop (mV)	Agency Approvals	
							PSE	c UL us
0.50	0.50	250	50 A @ 250 VAC	.5974	1.96	334		X
0.75	0.75	250		.2729	3.025	223		X
1.00	001.	250		.1826	9.00	207	X	X
1.50	01.5	250		.1100	15.21	210	X	X
2.00	002.	250		.0511	18.50	117	X	X
2.50	02.5	250		.0392	22.20	156	X	X
3.00	003.	250		.0276	59.29	103	X	X
3.50	03.5	250		.0199	59.34	87	X	X
4.00	004.	250		.0160	122.5	83	X	X
5.00	005.	250		.0115	180.6	73	X	X

Notes:
1. Cold resistance measured at less than 10% of rated current at 23°C.
2. Agency Approval Table Key: X=Approved or Certified, P=Pending.

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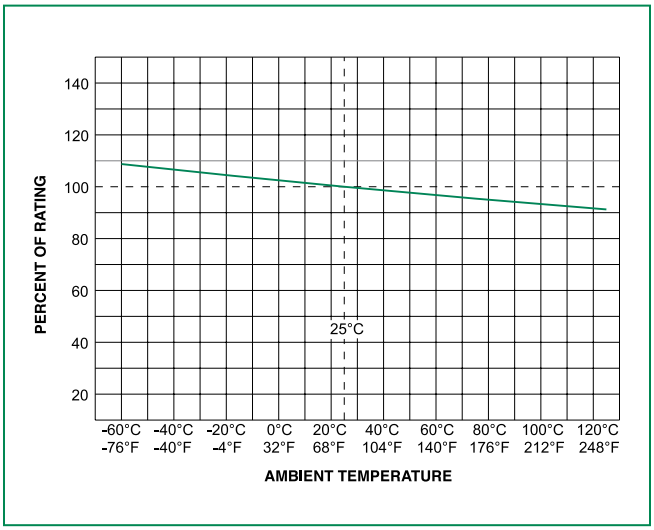
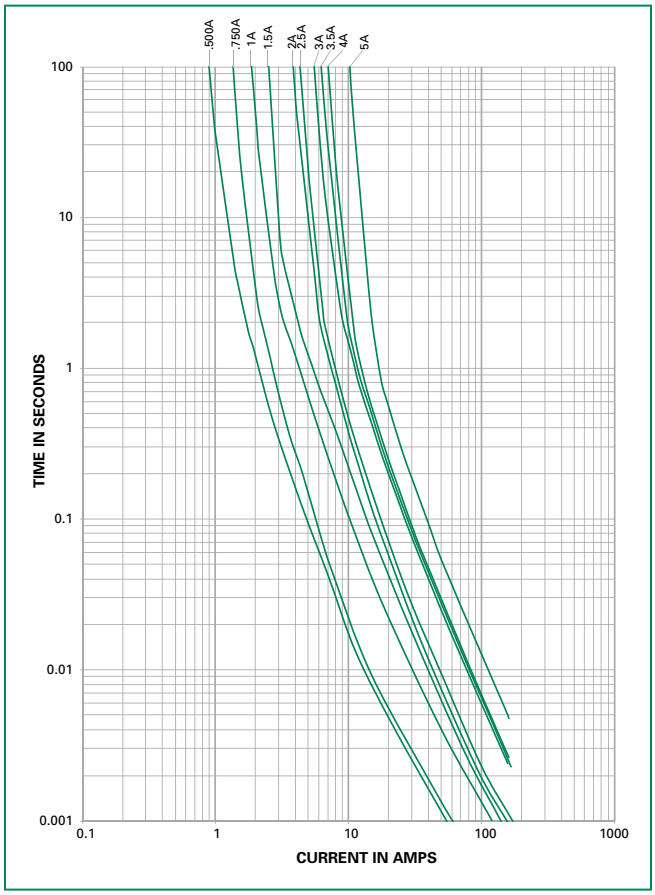
Temperature Re-rating Curve



Note:

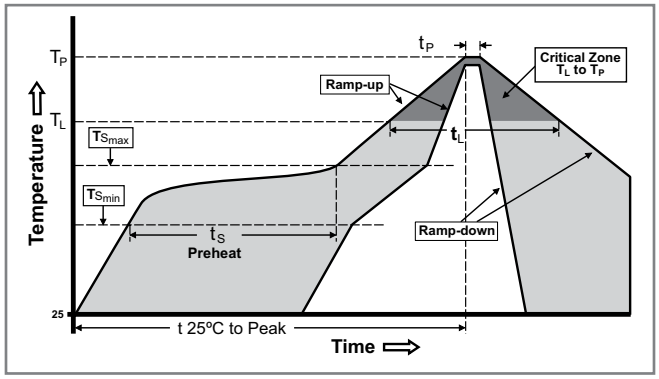
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters

Reflow Condition		Pb-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (Min to Max) (t_s)	60 – 180 seconds
Average Ramp-up Rate (Liquidus Temp (T_L) to peak)		5°C/second max.
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max.
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C



Revised: 02/24/17

Littelfuse
Expertise Applied | Answers Delivered

Surface Mount Fuses

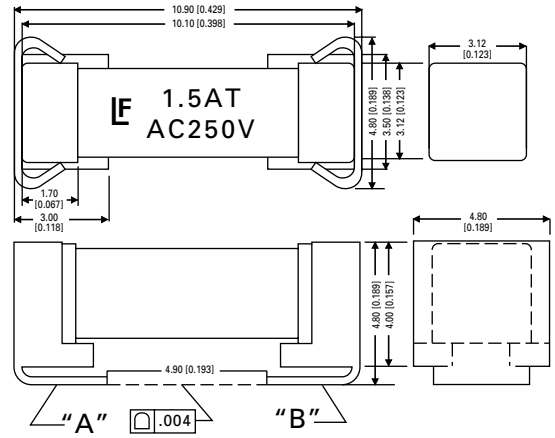
NANO2® > 160 Fuse and Clip Series

Product Characteristics

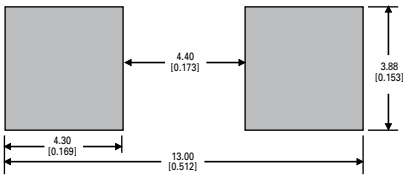
Materials	**Body:** Ceramic **Cap:** Silver-plated Brass
Product Marking	Brand, Ampere Rating, Voltage Rating, UMF Logo
Insulation Resistance (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)
Solderability	MIL-STD-202, Method 208
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 seconds at 260°C)
Moisture Sensitivity Level	Level 1 J-STD-020

Operating Temperature	–55°C to 125°C with proper re-rating
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (5 cycles, -65°C to 125°C)
Vibration	MIL-STD-202, Method 201 (10-55 Hz)
Moisture Resistance	MIL-STD-202, Method 106, High Humidity (90-98% RH), Heat (65°C)
Salt Spray	MIL-STD-202, Method 101, Test Condition B
Mechanical Shock	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 msecs.)

Dimensions



Recommended Pad Layout



Part Numbering System

160 01.5 M R

SERIES

AMP Code
Refer to Electrical Specifications table

QUANTITY Code
M = 1000 pcs

PACKAGING Code
R = Tape and Reel

Example:
1.5 amp product is 0160**01.5** MR

Packaging

Form Factor	Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
Surface Mount	24mm Tape and Reel	EIA-RS 481-2 (IEC 286, part 3)	1000	MR

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LifeElectronics
Живое партнерство

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