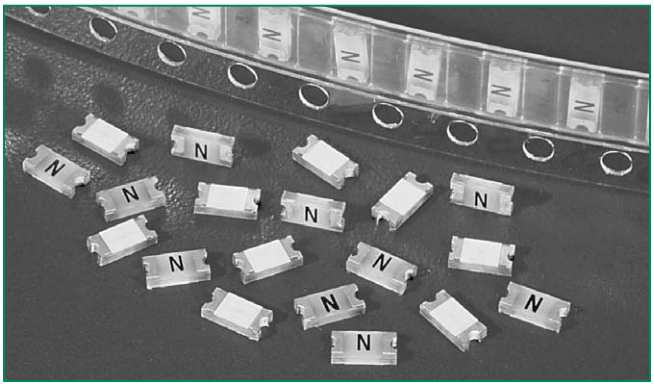
433 Series Fuse



Agency Approvals

Agency	Agency File Number	Ampere Range
®	E10480	125mA - 5A
®	LR29862	125mA - 5A

Electrical Characteristics for Series

% of Ampere Rating	Opening Time at 25°C
100%	4 hours, Minimum
200%	5 sec., Maximum
300%	0.2 sec., Maximum

Description

The 433 series fast-acting surface mount fuse series is a small (1206 size) thin-film device designed for secondary protection of circuits used in space constrained applications such as hand-held portable electronic devices.

For RoHS compliant and lead-free design, please refer to the Littelfuse 466 series thin film fuse. For new designs of 7 amp please refer to Littelfuse 429 series thin film fuse.

Features

- The SlimLine 1206 fuse is an extremely small, low profile design (1206 chip size) utilizing thin-film technology to achieve precise control of electrical characteristics.
- The lower height profile produces a flat surface for improved performance in pick-and-place operations and an alternate solution for height critical application.
- Mounting pad and electrical specification are identical to the popular 429 Series specifications.

Applications

Secondary protection for space constrained applications such as:

- Cell phones
- Battery packs
- Digital cameras
- DVD players
- Hard disk drives.

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A^2sec)	Agency Approvals	
						®	®
0.125	.125	125	50A @125 V AC/DC	3.45000	0.00040	x	x
0.200	.200	125		0.93800	0.00055	x	x
0.250	.250	125		0.62500	0.00100	x	x
0.375	.375	125		0.37500	0.00280	x	x
0.50	.500	63	50A @63 V AC/DC	0.24050	0.00600	x	x
0.60	.600	63		0.21000	0.01310	x	x
0.75	.750	63		0.13700	0.01700	x	x
0.80	.800	63		0.12250	0.03050	x	x
1.00	001.	63		0.09950	0.03500	x	x
1.25	1.25	63		0.07475	0.06500	x	x
1.50	01.5	63		0.06250	0.12500	x	x
1.75	1.75	63		0.05000	0.15000	x	x
2.00	02.0	63		0.03975	0.23000	x	x
2.50	02.5	32	50A @32 V AC/DC	0.03065	0.50000	x	x
3.00	03.0	32		0.02625	0.70000	x	x
4.00	04.0	24	50A @24 V AC/DC	0.01400	1.0240	x	x
5.00	05.0	24		0.01100	1.6000	x	x

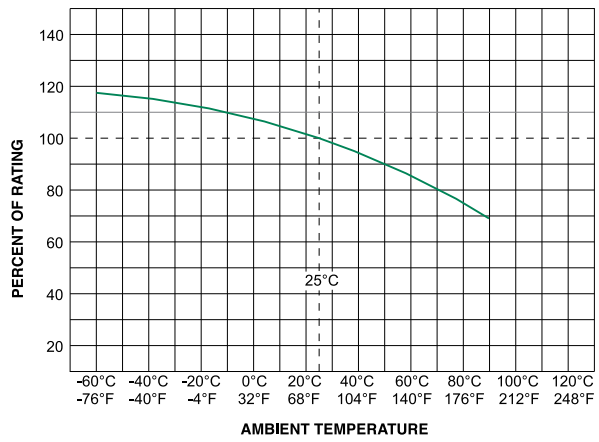
1. Measured at 10% of rated current, 25°C.
2. Measured at rated voltage.

©2008 Littelfuse, Inc.

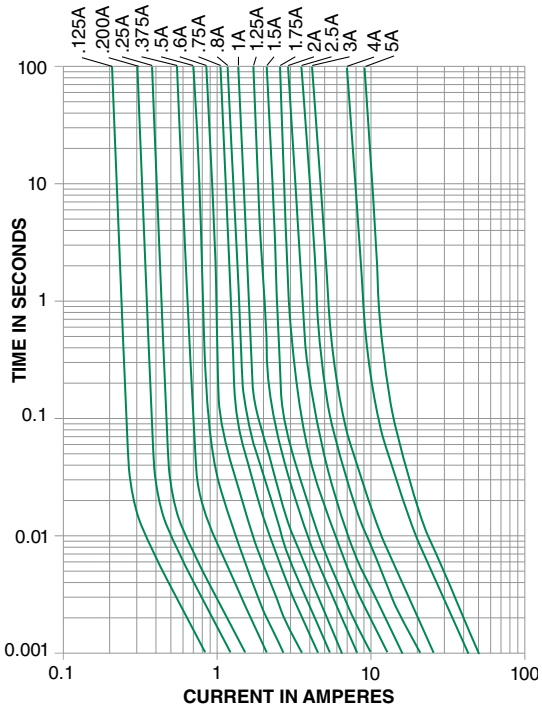
Specifications are subject to change without notice.
Please refer to www.littelfuse.com for the most current information

Revision: February 13, 2008

Temperature Rerating Curve

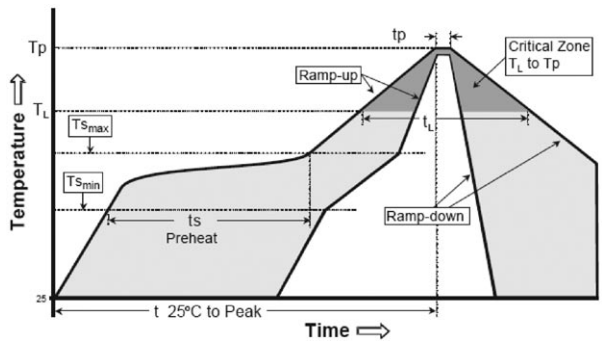


Average Time Current Curves



Soldering Parameters - Wave Soldering

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 secs
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)		$250^{+0/-5}$ °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



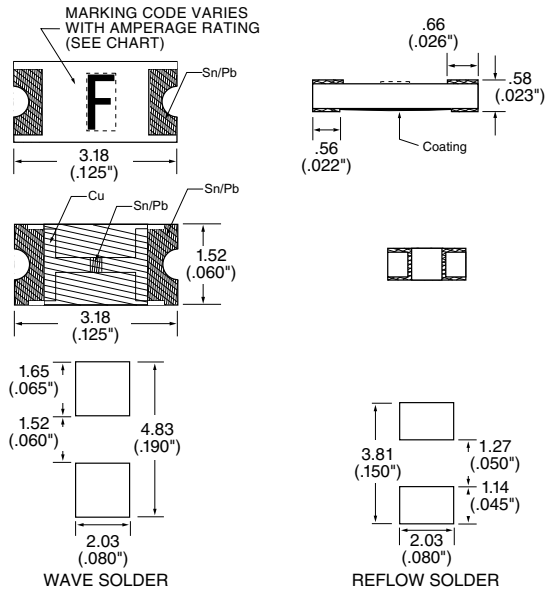
©2008 Littelfuse, Inc.
Specifications are subject to change without notice.
Please refer to www.littelfuse.com for the most current information

Product Characteristics

Materials	**Body:** Epoxy Substrate **Terminations:** 95% Tin / 5% Lead over Nickel over Copper **Element Cover Coat:** Conformal Coating
Operating Temperature	– 55°C to 90°C. Consult temperature rerating curve chart.
Thermal Shock	Withstands 5 cycles of – 55°C to 125°C

Humidity	MIL-STD-202F Method 103B Condition D
Vibration	Per MIL-STD-202F, Method 201A
Insulation Resistance (After Opening)	Greater than 10,000 ohms.
Resistance to Soldering Heat	Withstands 60 seconds above 200°C and up to 260°C, maximum

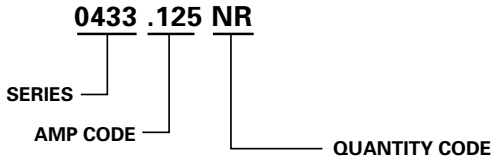
Dimensions



Part Marking System

Amp Code	Marking Code
.125	**B**
.200	**C**
.250	**D**
.375	**E**
.500	**F**
.600	**.6**
.750	**G**
.800	**.8**
001.	**H**
1.25	**J**
01.5	**K**
1.75	**L**
002.	**N**
02.5	**O**
003.	**P**
03.5	**R**
004.	**S**
005.	**T**

Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
Tape & Reel – 8mm tape	EIA RS-481-1 (IEC 286, part 3)	5000	NR

©2008 Littelfuse, Inc.

Specifications are subject to change without notice.
Please refer to www.littelfuse.com for the most current information

Mouser Electronics

Authorized Distributor

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

Littelfuse:

04331.25NR 043302.5NR 04331.75NR 0433.125NR 0433002.NR 433001 433.125 0433002. 0433003. 0433004. 0433005. 043301.5 433.5 043302.5 0433.200NR 0433.800NR 0433.600NR 433002 433005 433003 433004 433.250 433.750 043301.4NR