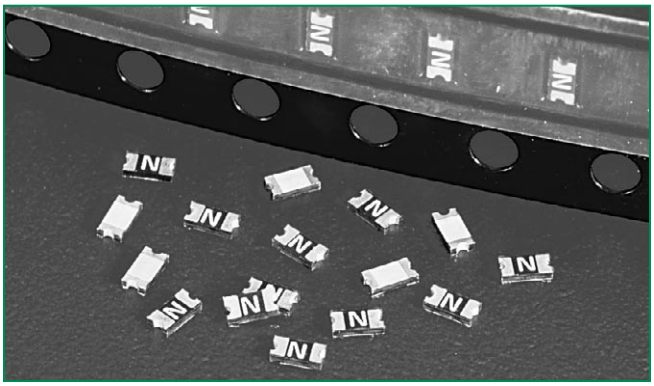
434 Series Fuse



Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	250mA - 3A
	LR29862	250mA - 3A

Electrical Characteristics for Series

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

Description

The 434 series fast-acting surface mount fuse series is an ultra small (0603 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 467 series thin film fuse.

Features

- The SlimLine 0603 fuse is an extremely small, low profile design (0603 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 applications.

Applications

Secondary protection for space constrained applications such as:

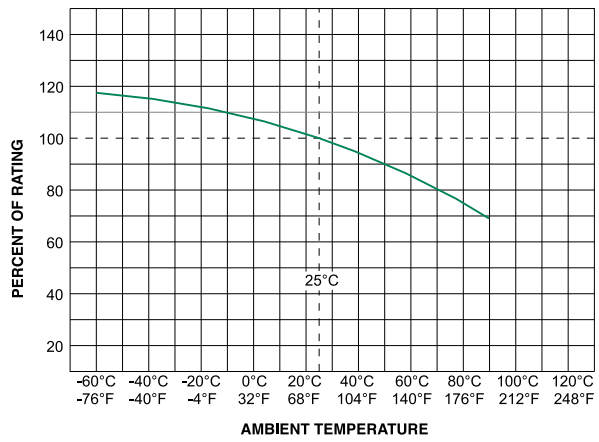
- Cell phones
- Battery packs
- Digital cameras
- DVD players
- Hard disk drives.

Electrical Specifications by Item

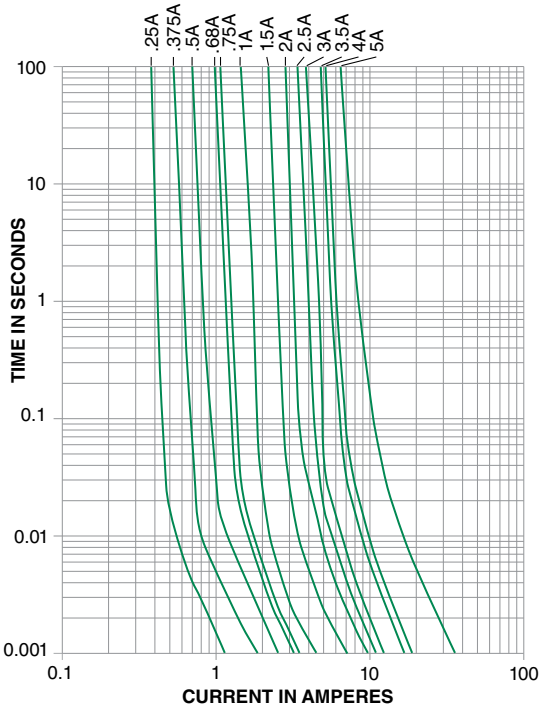
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A^2sec)	Agency Approvals	
0.250	.250	32	50A @32 V AC/DC	0.3750	0.0030	x	x
0.375	.375	32		0.2650	0.0053	x	x
0.500	.500	32		0.1903	0.0087	x	x
0.680	.680	32		0.1250	0.0109	x	x
0.750	.750	32		0.1140	0.0171	x	x
1.00	001.	32		0.0720	0.0212	x	x
1.25	1.25	32	35A @32 V AC/DC	0.0540	0.0320	x	x
1.50	01.5	32		0.0480	0.0526	x	x
1.75	1.75	32		0.0390	0.0661	x	x
2.00	002.	32		0.0360	0.1040	x	x
2.50	02.5	32		0.0280	0.1750	x	x
3.00	003.	32		0.0230	0.1980	x	x
3.50	03.5	32		0.0190	0.2650	x	x
4.00	004.	32		0.0170	0.3520	x	x
5.00	005.	32		0.0130	1.2970	x	x

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

Temperature Rerating Curve

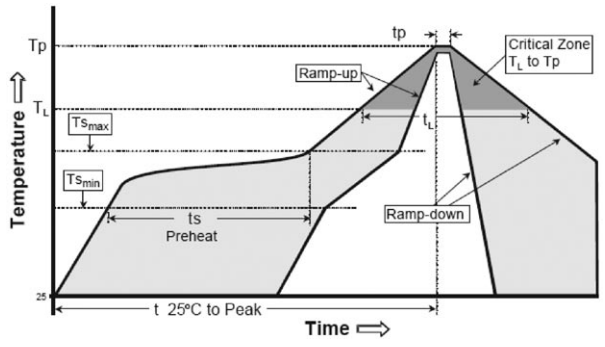


Average Time Current Curves



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

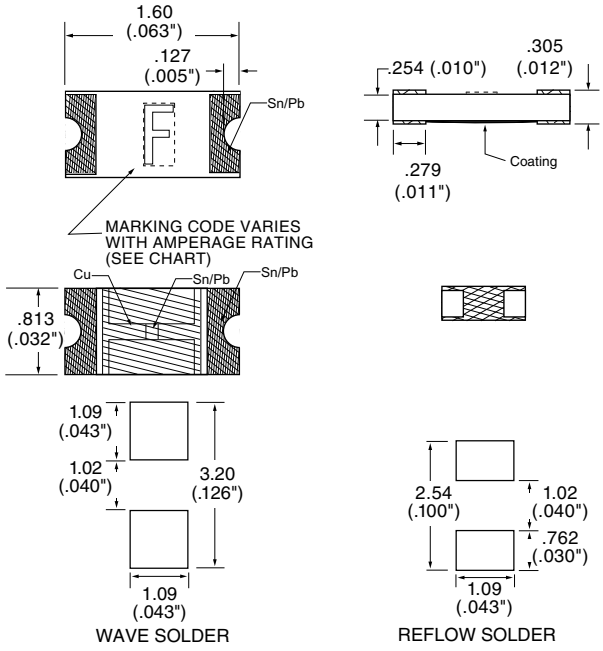


Product Characteristics

Materials	**Body:** Epoxy Substrate **Terminations:** 100% Tin over Nickel over Copper **Element Cover Coat:** Conformal Coating
Operating Temperature	– 55°C to 90°C. Consult temperature rerating curve chart. For operation above 90°C contact Littelfuse.
Humidity	MIL-STD-202F Method 103B Condition D

Thermal Shock	Withstands 5 cycles of – 55°C to 125°C
Vibration	Per MIL-STD-202F
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

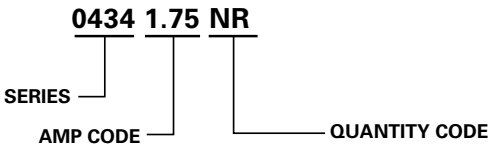
Dimensions



Part Marking

Amp Code	Marking Code
.250	**D**
.375	**E**
.500	**F**
.680	**X**
.750	**G**
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
8mm Tape and Reel	EIA RS-481-2 (IEC 286, part 3)	5000	NR