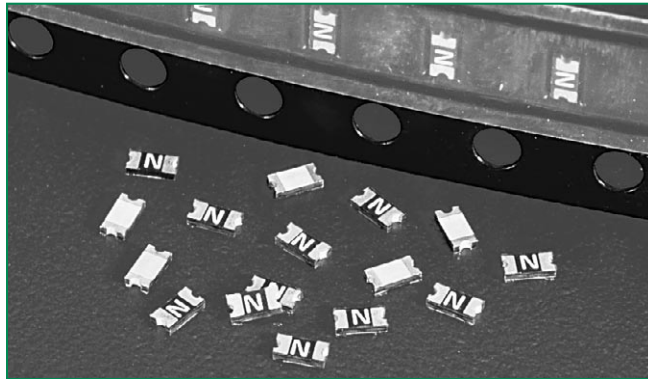


## 434 Series Fuse



### 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.

### Agency Approvals

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

### Electrical Characteristics for Series

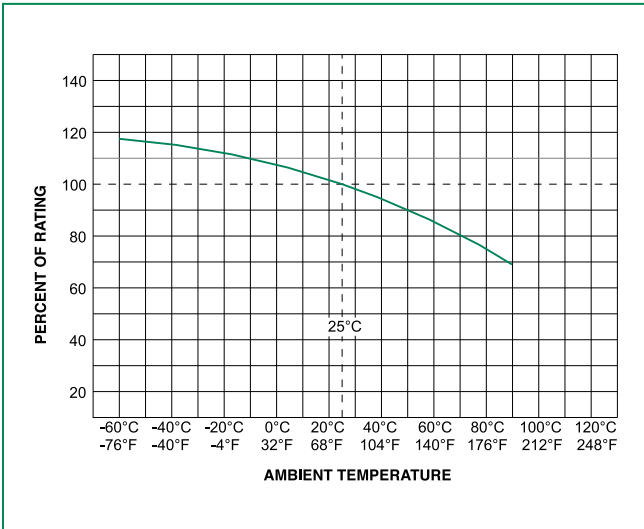
% of Ampere Rating	Opening Time at 25°C
100%	4 hours, Minimum
200%	5 seconds, Maximum.
300%	0.2 seconds, Maximum

### Electrical Specifications by Item

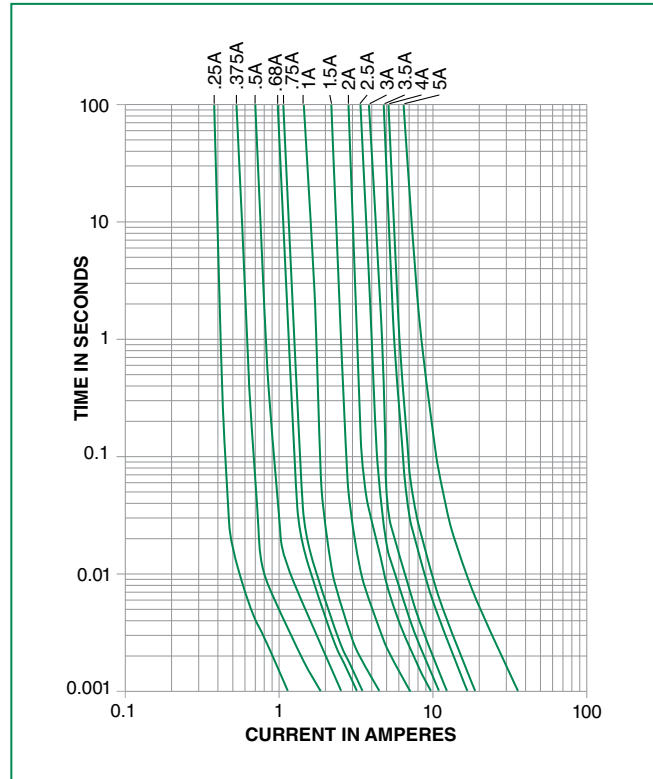
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Agency Approvals	
0.250	.250	32	50A @32 V AC/DC	0.3750	0.0030	x	x
0.375	.375	32		0.2650	0.0053	x	x
0.500	.500	32		0.1903	0.0087	x	x
0.680	.680	32		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 Derating Curve

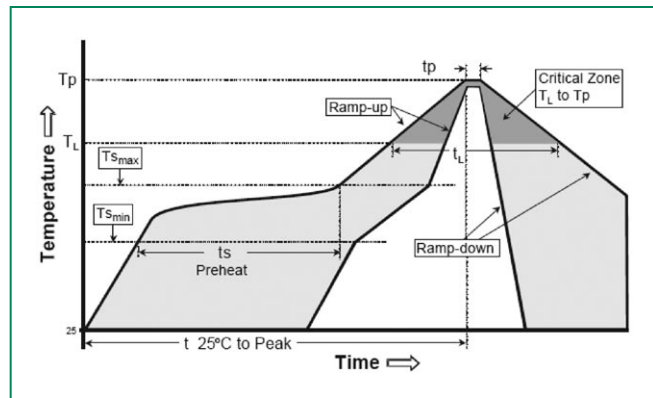


### Average Time Current Curves



### 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 <sup>+0/-5</sup> °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

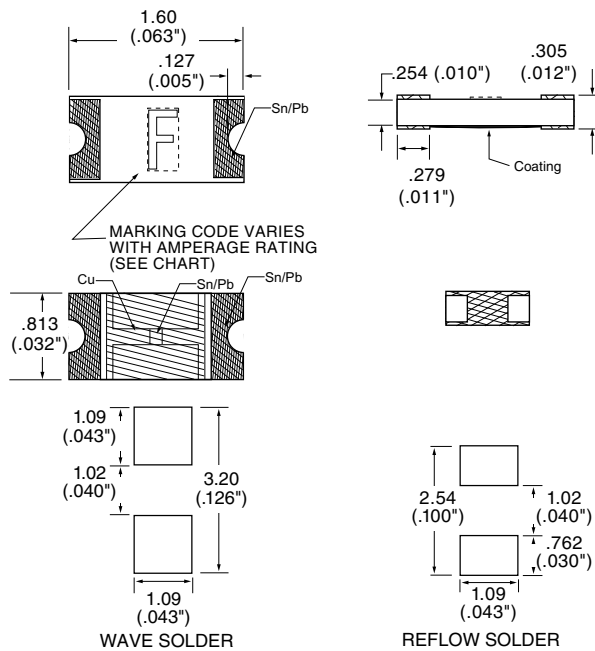


## Product Characteristics

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

<b>Thermal Shock</b>	Withstands 5 cycles of - 55°C to 125°C
<b>Vibration</b>	Per MIL-STD-202F
<b>Insulation Resistance (After Opening)</b>	Greater than 10,000 ohms
<b>Resistance to Soldering Heat</b>	Withstands 60 seconds above 200°C and up to 260°C, maximum

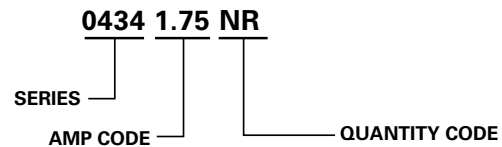
## Dimensions



## Part Marking

Amp Code	Marking Code
.250	<b>D</b>
.375	<b>E</b>
.500	<b>F</b>
.680	<b>X</b>
.750	<b>G</b>
001.	<b>H</b>
1.25	<b>J</b>
01.5	<b>K</b>
1.75	<b>L</b>
002.	<b>N</b>
02.5	<b>O</b>
003.	<b>P</b>
03.5	<b>R</b>
004.	<b>S</b>
005.	<b>T</b>

## 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