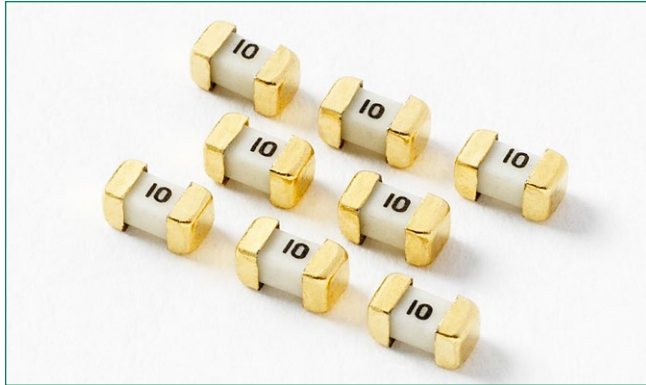


### 458 Series Fuse



#### Description

The 458 Series Nano<sup>2</sup>® Fuse is an ultra-small, square surface mount fuse designed to support a variety of space constrained overcurrent protection applications. Offering a 1206 size footprint, it is the smallest wire-in-air type surface mount fuse offered by Littelfuse.


#### Features

- Surface Mount Fuse
- Fully compatible with lead free soldering profiles
- RoHS Compliant and Halogen-Free
- Available in ratings of 1 to 10 Amperes
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14

#### Applications

- Notebook PC
- LCD backlight inverter
- LCD Panel
- DC/DC converter
- Battery Pack
- Car Navigation System
- Network Equipment
- Telecom Equipment
- Electronic Signage
- Portable Consumer Electronics

#### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	1A–10A

#### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
250%	5 seconds, Maximum

#### Additional Information



**Datasheet**




**Resources**



**Samples**

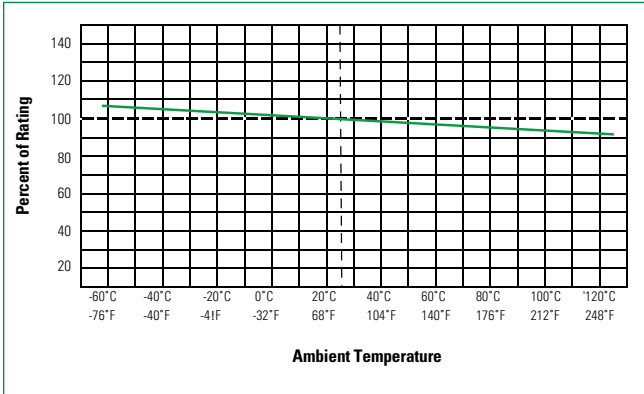
#### Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Marking	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Agency Approvals		
									
1.0	001.	1	75V	50A @ 75VDC 50A @ 48VAC	0.180	.168	x		
1.25	1.25	1.25			0.125	.313	x		
1.5	01.5	1.5			0.099	.548	x		
1.6	01.6	1.6			0.092	.562	x		
2	002.	2			0.0695	.952	x		
2.5	02.5	2.5			0.06	1.408	x		
3	003.	3			0.049	2.289	x		
3.15	3.15	3.15			0.045	2.457	x		
3.5	03.5	3.5			0.0375	4.00	x		
4	004.	4			0.032	4.832	x		
5	005.	5			0.027	7.938	x		
6.3	06.3	6.3			0.0192	14.37	x		
7	007.	7			63V	50A @ 63VDC 50A @ 32VAC	0.0175	20.48	x
8	008.	8					0.0058	13.448	x
10.0	010.	10	0.00465	15.0			x		

#### Notes:

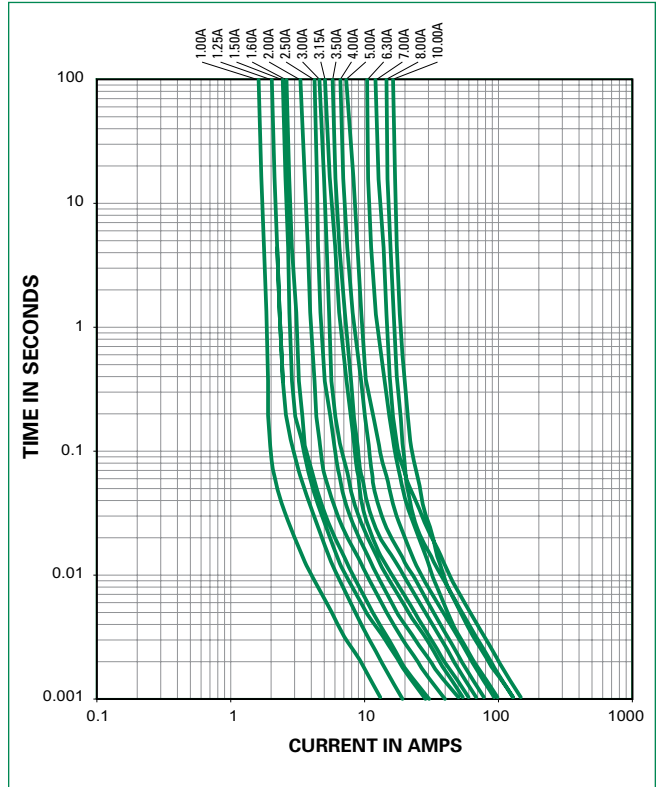
1. I<sup>2</sup>t values stated for 8 msec opening time
2. Cold resistance measured at less than 10% of rated current at 25°C.
3. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved
4. Have special electrical characteristic needs? Contact Littelfuse to learn more about application specific options.

**Temperature Re-rating Curve**



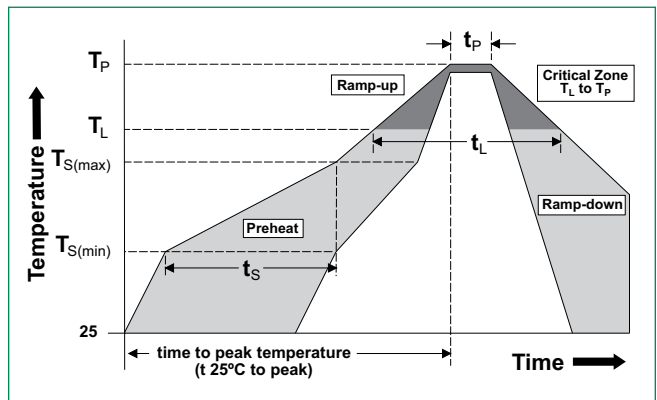
**Note:**  
1. Rerating depicted in this curve is in addition to the standard rerating of 25% for continuous operation.

**Average Time Current Curves**



**Soldering Parameters**

<b>Reflow Condition</b>		Pb - Free assembly
<b>Pre Heat</b>	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (Min to Max) ( $t_s$ )	60 - 180 secs
<b>Average ramp up rate (Liquidus Temp (<math>T_L</math>) to peak)</b>		5°C/second max
<b><math>T_{s(max)}</math> to <math>T_L</math> - Ramp-up Rate</b>		5°C/second max
<b>Reflow</b>	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_t$ )	60 - 150 seconds
<b>Peak Temperature (<math>T_p</math>)</b>		260 <sup>+0/-5</sup> °C
<b>Time within 5°C of actual peak Temperature (<math>t_p</math>)</b>		20 - 40 seconds
<b>Ramp-down Rate</b>		5°C/second max
<b>Time 25°C to peak Temperature (<math>T_p</math>)</b>		8 minutes Max.
<b>Do not exceed</b>		260°C

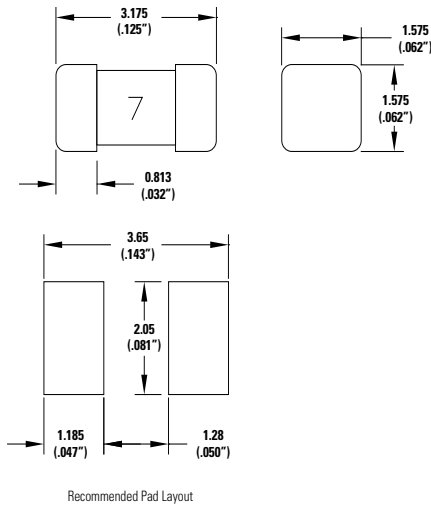


### Product Characteristics

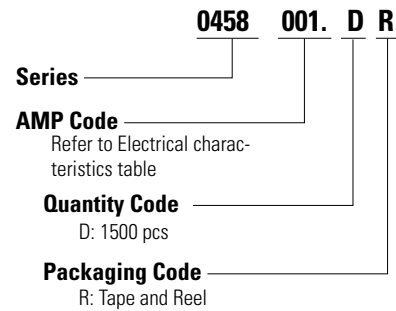
<b>Materials</b>	Body: Ceramic Cap: Gold Plated Brass
<b>Product Marking</b>	Body: Current Rating (Refer to Electrical Characteristic table)
<b>Insulation Resistance</b> (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)
<b>Solderability</b>	MIL-STD-202, Method 208
<b>Resistance to Soldering Heat</b>	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)
<b>Moisture Sensitivity Level</b>	Level 1 J-STD-020

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

### Dimensions



### Part Numbering System



**Example:**  
1.5 amp product is 0458 D  
R (1 amp product shown above).

### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
8mm Tape and Reel	EIA-RS 481-1	1500	DR

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