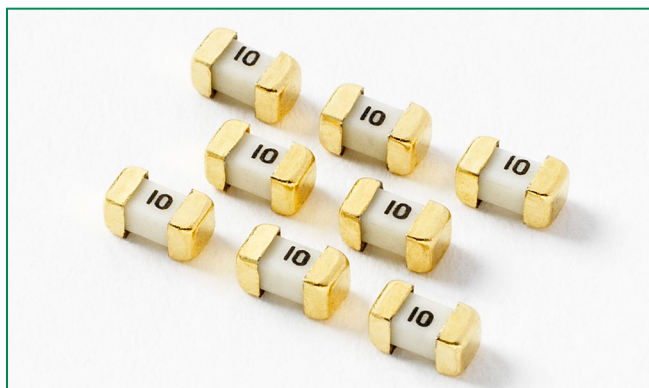


### 458 Series Fuse



#### 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

#### 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

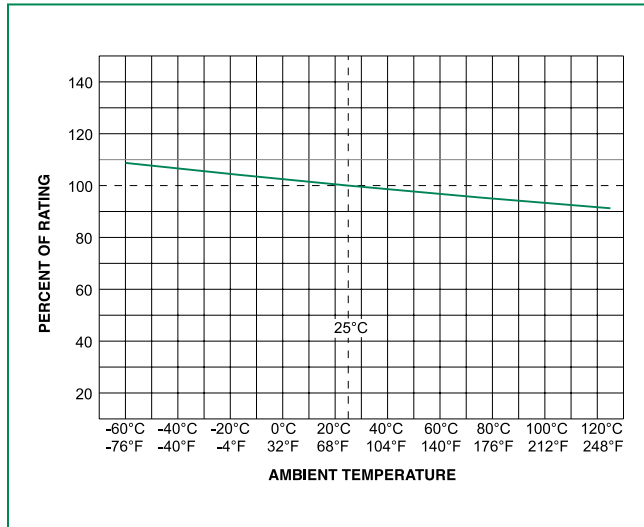
#### Electrical Specifications by Item

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	63V	50A @ 75VDC 50A @ 32VAC	0.027	7.938	x
6.3	06.3	6.3			0.0192	14.37	x
7	007.	7			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.

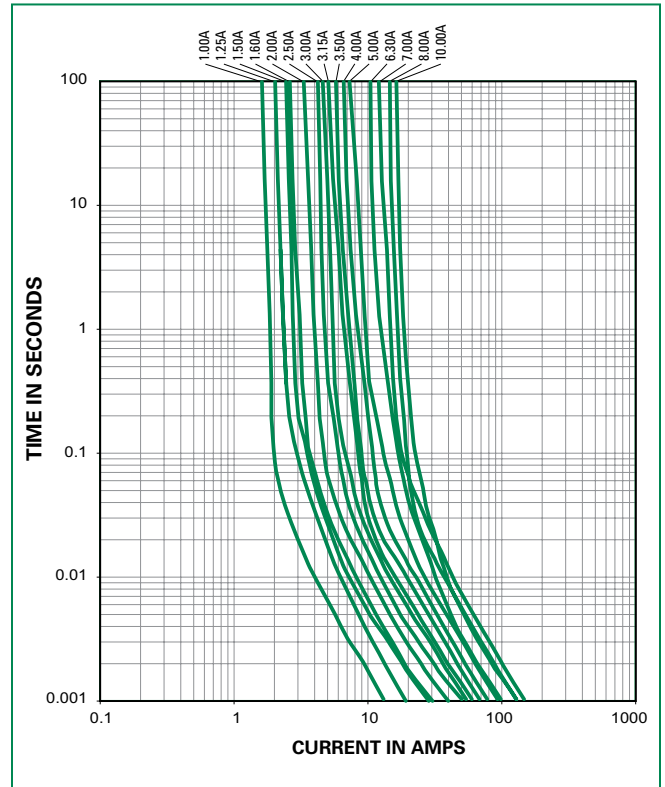
### Temperature Re-rating Curve



Note:

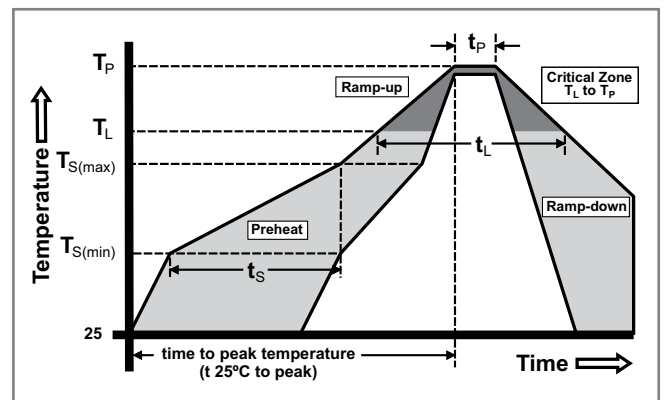
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### 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 – 120 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 – 90 seconds
Peak Temperature ( $T_p$ )		260 <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

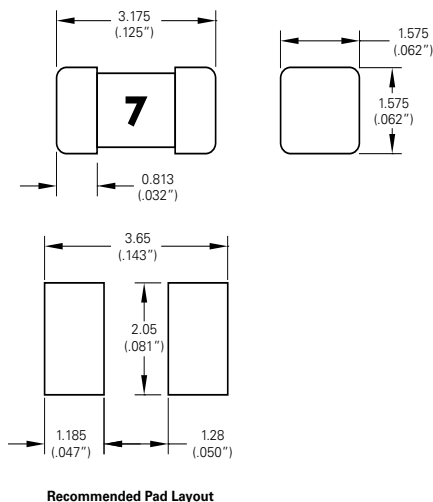


### Product Characteristics

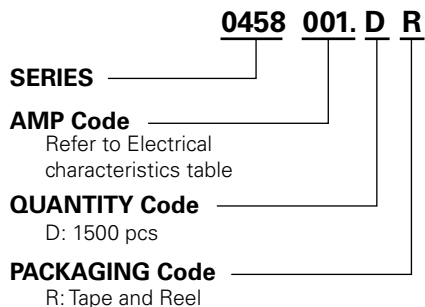
<b>Materials</b>	Body: Ceramic Cap: Gold Plated Brass
<b>Product Marking</b>	Body: Current Rating (Refer to Electrical Characteristic table)
<b>Insulation Resistance</b> (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)
<b>Solderability</b>	MIL-STD-202, Method 208
<b>Resistance 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

**Disclaimer Notice** - Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at [www.littelfuse.com/disclaimer-electronics](http://www.littelfuse.com/disclaimer-electronics).