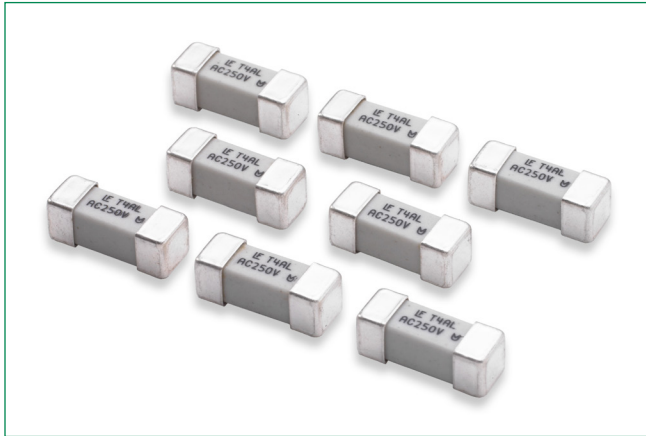


# 465 Series

## NANO2® > 250V UMF Time Lag Fuse



### Description

The Surface Mount Nano2® 250 V UMF product family complies with IEC 60127-4 which covers Universal Modular Fuse-Links [UMF]. This is an IEC standard that is accepted world wide.

### Features & Benefits

- Listed to IEC 60127-4, Universal Modular Fuse-Links (UMF)
- 250VAC Voltage rating
- RoHS compliant and Halogen Free

### Additional Information



Resources



Accessories



Samples

### Applications

- Power supply
- Lighting system
- White goods
- Industrial equipment

### Agency Approvals

Agency	Agency File Number	Ampere Range
	NBK030205-E10480B	1 A - 5 A
	NBK101105-E184655	6.3 A
	E184655	0.25 A - 6.3 A
	NA	1 A - 6.3 A
	NA	1 A - 6.3 A
	E10480	1 A - 6.3 A

### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
125%	1 hour, Minimum
200%	2 minutes, Maximum
1000%	0.01 sec., Min.; 0.1 sec., Max.

### Electrical Specifications by Item

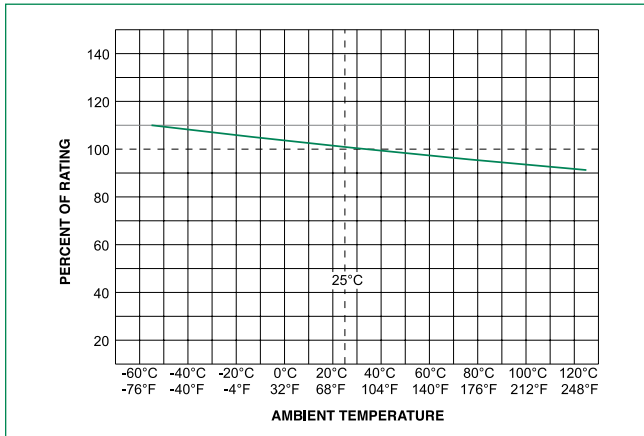
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Agency Approvals				
						UK CA	CE	PS E	UL	cRU US
1.00	001.	250	100A@250VAC	0.1070	2.5	x	x	x	x	x
1.25	1.25	250		0.0830	5.6	x	x	x	x	x
1.60	01.6	250		0.0560	9.0	x	x	x	x	x
2.00	002.	250		0.0390	14.4	x	x	x	x	x
2.50	02.5	250		0.0260	19.6	x	x	x	x	x
3.15	3.15	250		0.0210	32.4	x	x	x	x	x
4.00	004.	250		0.0160	48.4	x	x	x	x	x
5.00	005.	250		0.0130	90.0	x	x	x	x	x
6.30	06.3	250		0.0088	144.4	x	x	x	x	x

**Notes:**  
 - I<sup>2</sup>t calculated at 8ms.  
 - Resistance is measured at 10% of rated current, 25°C  
 - For information and availability of additional ratings please contact Littelfuse

# 465 Series

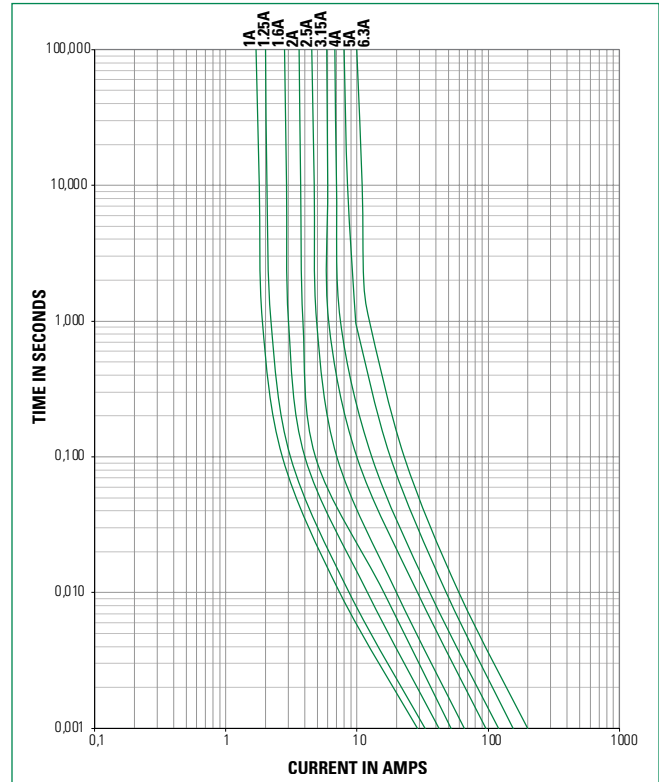
## NANO2® > 250V UMF Time Lag Fuse

Temperature Re-rating Curve



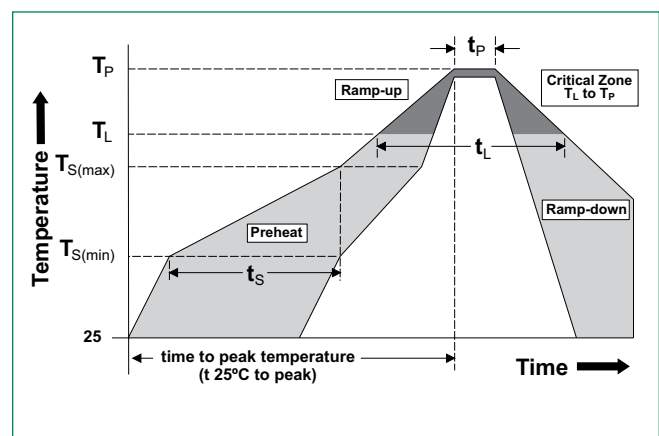
**Note:**  
1. Rerating depicted in this curve is in addition to the standard derating of 15% for continuous operation.

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) ( $t_p$ )	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 ( $t_L$ )	60 - 150 secs
<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
<b>Wave Soldering Parameters</b>		260°C Peak Temperature, 3 seconds max.



# 465 Series

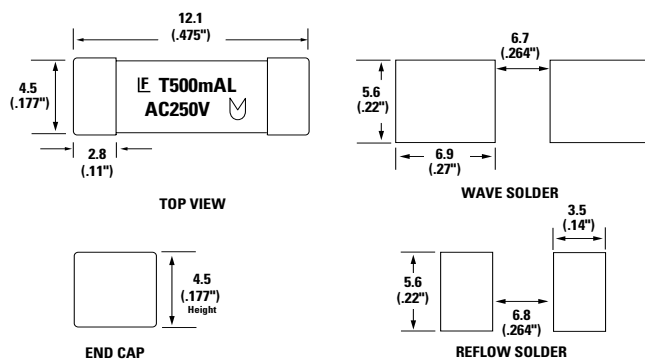
## NANO2® > 250V UMF Time Lag Fuse

### Product Characteristics

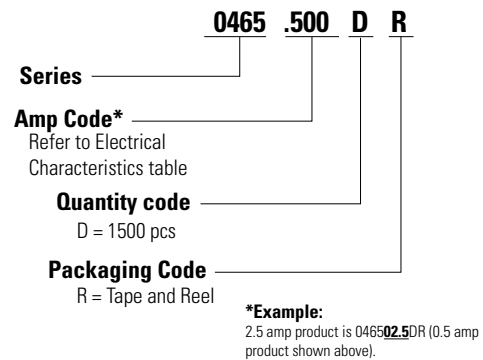
<b>Materials</b>	Body: High Performance Ceramic Terminations: Silver plated brass.
<b>Product Marketing</b>	Brand, Ampere Rating, Voltage Rating, UMF Logo
<b>Operating Temperature</b>	-55°C to 125°C
<b>Moisture Sensitivity Level</b>	J-STD-020, Level 1
<b>Solderability</b>	IEC 60127-4
<b>Insulation Resistance (after opening)</b>	IEC 60127-4 (0.1Mohm min @ 500VDC)
<b>Shock</b>	MIL-STD-202, Method 213, Test Condition A

<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B , 5 cycles, -65°C to 125°C
<b>Mechanical Shock</b>	MIL-STD-202, Method 213, Test Condition A
<b>Vibration</b>	MIL-STD-202, Method 201 (10-55 Hz)
<b>Moisture Resistance</b>	MIL-STD-202, Method 106, 10 cycles
<b>Salt Spray</b>	MIL-STD-202, Method 101, Test Condition B (48hrs)
<b>Resistance to Soldering Heat</b>	IEC 60127-4

### Dimensions



### Part Numbering System



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24mm Tape and Reel	EIA RS-481-1 (IEC 60286-3)	1500	DR

**Disclaimer Notice** - 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).