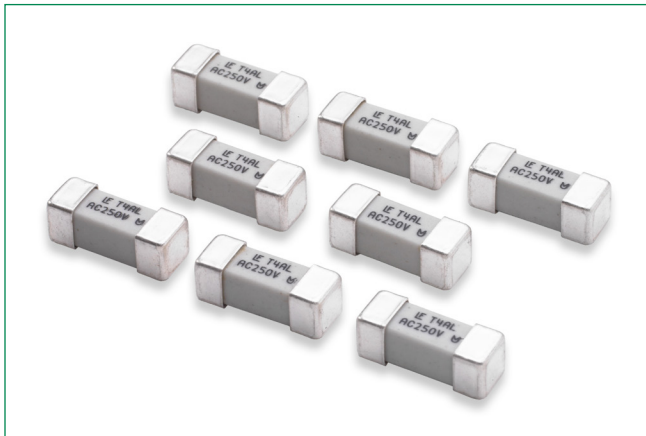


# 465 Series

## 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

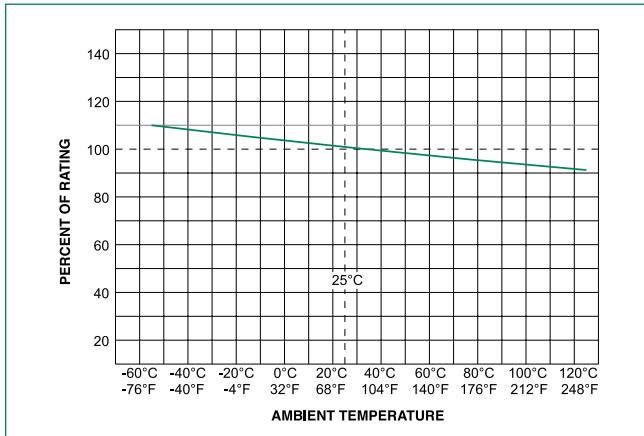
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A²sec)	Agency Approvals				
						UK CA	CE	PS E	UL	cRU US
1.00	001.	250	100A@250VAC	0.1070	2.5	x	x	x	x	x
1.25	1.25	250		0.0830	5.6	x	x	x	x	x
1.60	01.6	250		0.0560	9.0	x	x	x	x	x
2.00	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:**  
 - I²t 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

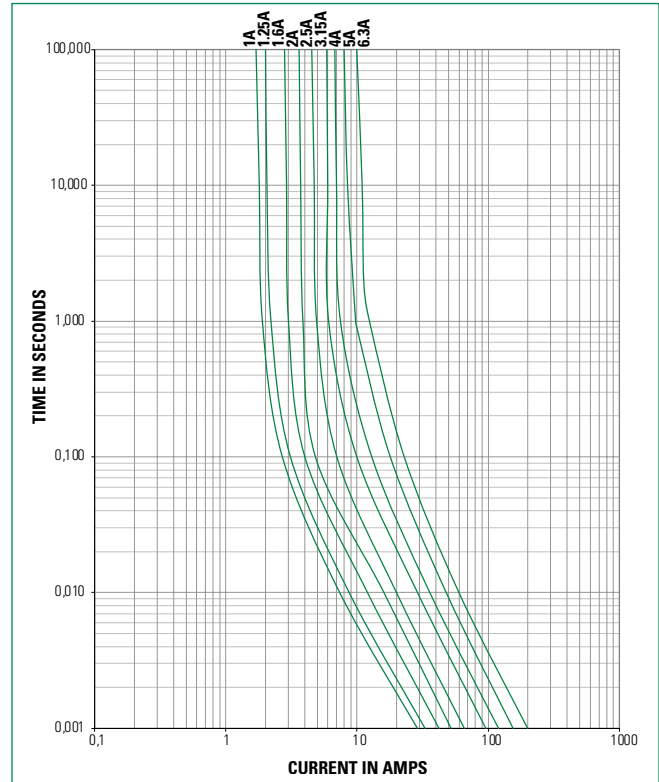
## NANO2® > 250V UMF Time Lag Fuse

Temperature Re-rating Curve



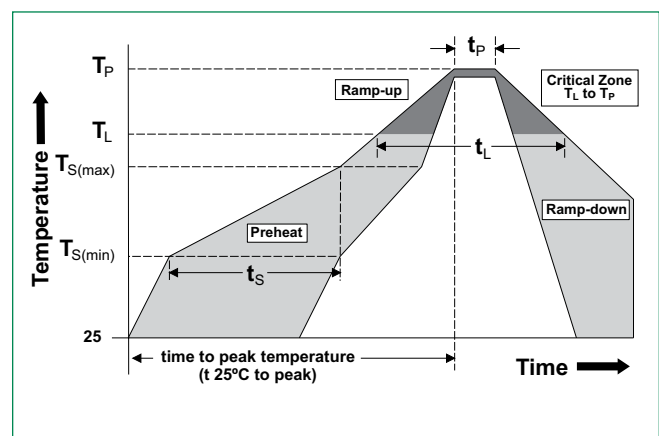
**Note:**  
1. Rerating depicted in this curve is in addition to the standard derating of 15% for continuous operation.

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

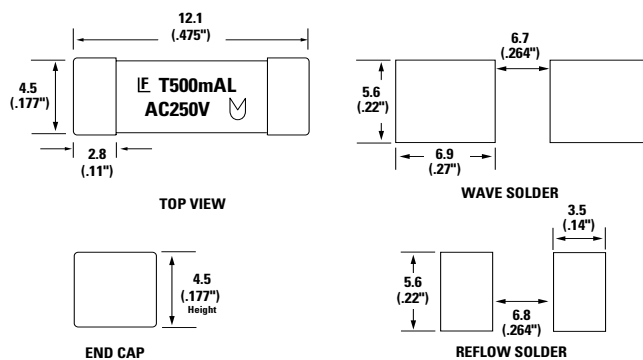
## NANO2® > 250V UMF Time Lag Fuse

### Product Characteristics

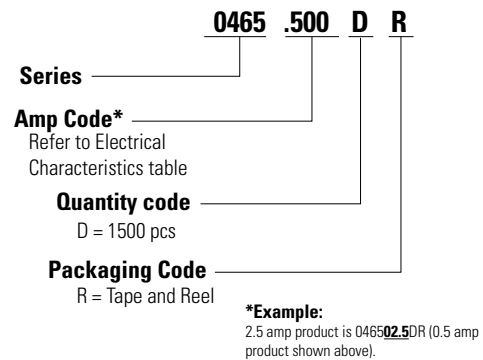
<b>Materials</b>	Body: High Performance Ceramic Terminations: Silver plated brass.
<b>Product Marketing</b>	Brand, Ampere Rating, Voltage Rating, UMF Logo
<b>Operating Temperature</b>	-55°C to 125°C
<b>Moisture Sensitivity Level</b>	J-STD-020, Level 1
<b>Solderability</b>	IEC 60127-4
<b>Insulation Resistance (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

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