

# 464 Series Fuse



Agency Approvals				
Agency	Agency File Number	Ampere Range		
PS	NBK030205-E10480B	1A - 5A		
Ē	NBK101105-E184655	6.3A		
М	E184655	0.25A - 6.3A		

## Description

The 464 Series fuse is a surface mount Nano2(R) fuse that conforms to IEC 60127-4. This IEC standard addresses Universal Modular Fuse-links (UMF) which are accepted world-wide without any additional country-specific deviations.

## Features

- Fast-Acting
- Listed to IEC 60127-4, Universal Modular Fuse-Links (UMF)
- RoHS compliant and Halogen Free

RoHS H F S

• 250VAC Voltage rating

### Applications

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

# Electrical Characteristics for Series

% of Ampere Rating	Opening Time
125%	1 hour, Minimum
200%	2 minutes, Maximum
1000%	0.001 sec., Min.; 0.01 sec., Max.

# Additional Information





Resources



#### Samples

Ampere	Max				Nominal	Agency Approvals		
Rating (A)	Amp Code	np Code Voltage Interrupting Nominal Cold Nominal Melting Rating Rating Rating Pesistance (Ohms) I²t (A²sec) (V)	Nominal Melting I²t (A²sec)	Voltage Drop (mV)		M		
0.500	.500	250		0.2373	0.22	600	-	х
0.800	.800	250		0.1159	0.308	400	-	х
1.00	001.	250	100A@250VAC	0.0762	0.51	300	x	х
1.25	1.25	250		0.0580	0.98	300	x	х
1.60	01.6	250		0.0448	1.15	300	x	х
2.00	002.	250		0.0354	2.48	300	x	х
2.50	02.5	250		0.0288	3.99	300	x	х
3.15	3.15	250		0.0206	8.05	300	x	х
4.00	004.	250		0.0156	13.85	300	x	х
5.00	005.	250		0.0119	23.6	300	x	х
6.30	06.3	250		0.0093	35.912	300	x	х

#### Notes:

- I<sup>2</sup>t calculated at 8ms.

- Resistance is measured at 10% of rated current, 25°C

Electrical Specifications by Ite

- For information and availability of additional ratings please contact Littelfuse

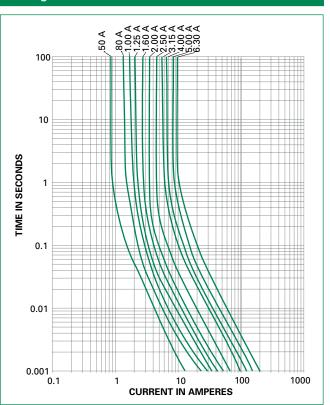


#### **Temperature Re-rating Curve** 140 I 120 T PERCENT OF RATING 100 Т 80 ï ÷ 60 1 25°C 40 -20 1 -60°C -40°C -76°F -40°F 20°C 40°C 60°C 80°C 100°C 120°C 68°F 104°F 140°F 176°F 212°F 248°F -20°C -4°F 0°C 32°F AMBIENT TEMPERATURE

Note:

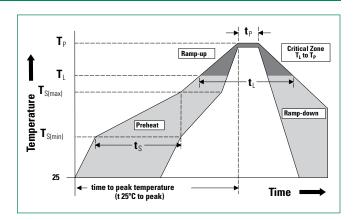
1. Rerating depicted in this curve is in addition to the standard derating of 15% for continuous operation.

## **Average Time Current Curves**



## **Soldering Parameters**

Reflow Condition		Pb – Free assembly		
	- Temperature Min (T <sub>s(min)</sub> )		150°C	
Pre Heat	- Temperature Max (T <sub>s(max)</sub> )		200°C	
	-Time (Min to Max) (t <sub>s</sub> )		60 – 180 secs	
Average ramp up rate (Liquidus Temp $(T_L)$ to peak		5°C/second max.		
T <sub>S(max)</sub> to T <sub>L</sub> - Ramp-up Rate		5°C/second max.		
Reflow	- Temperature (T <sub>L</sub> ) (Liquidus)		217°C	
	- Temperature (t <sub>L</sub> )		60 – 150 seconds	
Peak Temperature (T <sub>P</sub> )		260+0/-5 °C		
Time within 5°C of actual peak Temperature (t <sub>p</sub> )			20 – 40 seconds	
Ramp-down Rate			5°C/second max.	
Time 25°C to peak Temperature (T <sub>p</sub> )			8 minutes max.	
Do not exceed		260°C		
Wave Soldering Parameters		260°C Peak Temperature, 10 seconds max.		



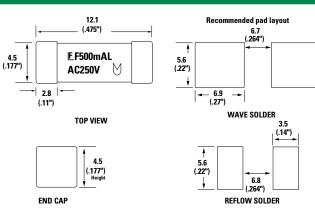


### **Product Characteristics**

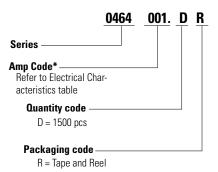
Materials	Body: Ceramic Terminations: Silver-plated Caps	
Product Marking	Brand, Ampere Rating, Voltage Rating, UMF Logo	
Operating Temperature	-55°C to 125°C	
Moisture Sensitivity Level	Level 1, J-STD-020	
Solderability	IEC 60127-4	
Insulation Resistance (after Opening)	IEC 60127-4 (0.1Mohm min @ 500VDC)	

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

Dimensions



# Part Numbering System



\*Example:

2.5 amp product is 0464<u>02.5</u> DR (1 amp product shown above).

## Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24mm Tape and Reel	EIA RS-481-1 (IEC 286, part 3)	1500	DR

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