

# Surface Mount Fuses

## Subminiature Surface Mount

### RoHS Lead-Free NANO<sup>2</sup>® Fuse Very Fast-Acting 448 Series



The lead free Nano<sup>2</sup> SMF Fuse is a very small, square surface mount fuse that is RoHS compliant and 100% Lead-Free. This product is fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly.

#### ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1/16–15	4 hours, <b>Minimum</b>
200%	1/16–10	5 seconds, <b>Maximum</b>
	12–15	20 seconds, <b>Maximum</b>

**AGENCY APPROVALS:** Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by METI from 1 through 5 amperes.

**AGENCY FILE NUMBERS:** UL E10480, CSA LR 29862.

#### INTERRUPTING RATINGS:

1/16 – 8A	50 amperes at 125 VAC/VDC 300 amperes at 32 VDC
10A	35 amperes at 125 VAC/50 amperes at 125 VDC 300 amperes at 32 VDC
12A – 15A	50 amperes at 65 VAC/VDC 300 amperes at 24 VDC

#### ENVIRONMENTAL SPECIFICATIONS:

**Operating Temperature:** –55°C to 125°C.

**Shock:** MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

**Vibration:** MIL-STD-202, Method 201 (10–55 Hz).

**Salt Spray:** MIL-STD-202, Method 101, Test Condition B.

**Insulation Resistance (After Opening):** MIL-STD-202, Method 302, Test Condition A, (10,000 ohms minimum).

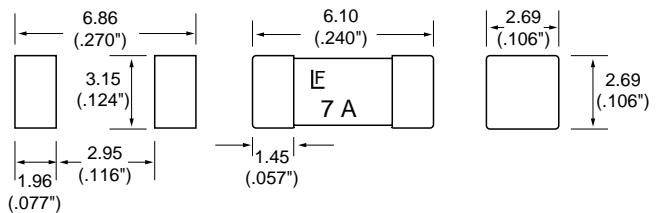
**Resistance to Soldering Heat:** MIL-STD-202, Method 210, Test Condition B (10 sec. at 260°C).

**Thermal Shock:** MIL-STD-202, Method 107, Test Condition B (–65 to 125°C).

**Moisture Resistance:** MIL-STD-202, Method 106, High Humidity (90–98 RH), Heat (65°C).

#### ORDERING INFORMATION:

Catalog #	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I <sup>2</sup> t A <sup>2</sup> Sec.
0448.062	0.062	125	5.50	0.00023
0448.080	0.080	125	4.42	0.00043
0448.100	0.100	125	2.90	0.00082
0448.125	0.125	125	2.58	0.00130
0448.160	0.160	125	1.76	0.00280
0448.200	0.200	125	1.40	0.00380
0448.250	0.250	125	1.05	0.01520
0448.315	0.315	125	0.7900	0.0265
0448.375	0.375	125	0.7300	0.0240
0448.400	0.400	125	0.4895	0.0416
0448.500	0.500	125	0.3800	0.1000
0448.630	0.630	125	0.2821	0.121
0448.750	0.750	125	0.2475	0.206
0448.800	0.800	125	0.1907	0.272
0448.001.	1.0	125	0.08630	0.441
0448.1.25	1.25	125	0.06619	0.900
0448.01.5	1.5	125	0.06514	0.900
0448.01.6	1.6	125	0.06261	1.122
0448.002.	2.0	125	0.03529	0.812
0448.02.5	2.5	125	0.02934	1.156
0448.003.	3.0	125	0.02445	1.720
0448.3.15	3.15	125	0.02300	1.810
0448.03.5	3.5	125	0.02100	2.300
0448.004.	4	125	0.01577	3.970
0448.005.	5	125	0.01531	4.490
0448.06.3	6.3	125	0.01044	12.10
0448.007.	7	125	0.00900	13.92
0448.008.	8	125	0.00780	18.33
0448.010.	10	125	0.00700	28.00
0448.012.	12	65	0.00533	47.59
0448.015.	15	65	0.00394	96.10



Recommended pad layout

#### PHYSICAL SPECIFICATIONS:

**Materials:** Body: Ceramic, blue ink used for device marking  
Terminations: Gold over nickel plated brass caps

#### Soldering Parameters (see page 3 for typical soldering profile):

Wave Solder — 260°C, 10 seconds maximum  
Reflow Solder — 260°C, 30 seconds maximum

**Solderability:** MIL-STD-202, Method 208.

**PACKAGING SPECIFICATIONS:** 12mm Tape and Reel per EIA-RS481-1 (IEC 286, part3); 1,000 pieces per reel, add packaging suffix, MR; 5,000 per reel, add packaging suffix NR.

#### PATENTED

#### Average Time Current Curves

