RoHS NANO²® FUSE Very Fast-Acting 451/453 Series

The Nano² SMF Fuse is a very small, square surface mount fuse that is also available in a surface mount holder.

• 451 Series **RoHS Compliant** version now available, use ordering suffix 'L' (see example on data sheet).

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1/16–15	4 hours, **Min**imum
200%	1/16–10	5 seconds, **Max**imum
	12–15	20 seconds, **Max**imum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by METI from 1 through 5 amperes. UL Listed 0.062 - 5A.

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).

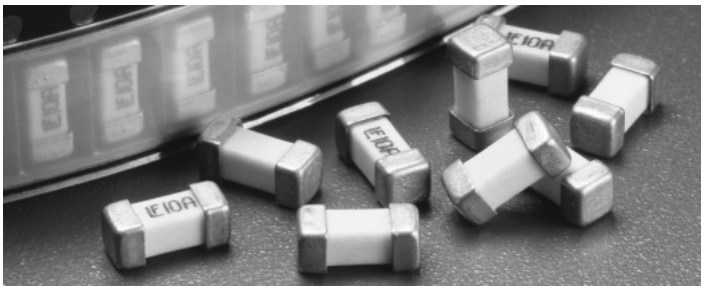
Resistance to Soldering Heat: MIL-STD-202, Method 210, Test Condition B (10 sec. at 260°C).

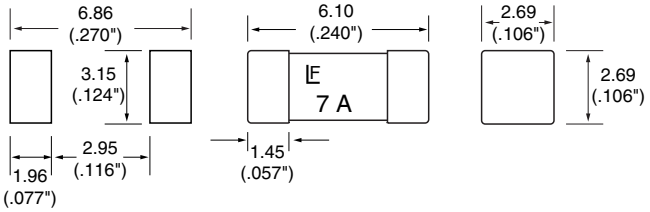
Thermal Shock: MIL-STD-202, Method 107, Test Condition B (–65 to 125°C).

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

Tin-Lead Plated Catalog #	Silver Plated Catalog #	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I²t A² Sec.
–	**0451**.062	0.062	125	5.50	0.00019
–	**0451**.080	0.080	125	4.05	0.00033
–	**0451**.100	0.100	125	3.10	0.00138
–	**0451**.125	0.125	125	1.70	0.00286
0451.160	**0453**.160	0.160	125	1.80	0.00306
0451.200	**0453**.200	0.200	125	1.40	0.00652
0451.250	**0453**.250	0.250	125	1.05	0.01126
0451.315	**0453**.315	0.315	125	0.78	0.0231
0451.375	**0453**.375	0.375	125	0.610	0.0425
0451.400	**0453**.400	0.400	125	0.560	0.0484
0451.500	**0453**.500	0.500	125	0.420	0.0795
0451.630	**0453**.630	0.630	125	0.305	0.143
0451.750	**0453**.750	0.750	125	0.245	0.185
0451.800	**0453**.800	0.800	125	0.212	0.271
0451 001.	**0453** 001.	1.0	125	0.153	0.459
0451 1.25	**0453** 1.25	1.25	125	0.0780	0.664
0451 01.5	**0453** 01.5	1.5	125	0.0630	0.853
0451 01.6	**0453** 01.6	1.6	125	0.0580	1.060
0451 002.	**0453** 002.	2.0	125	0.0367	0.530
0451 02.5	**0453** 02.5	2.5	125	0.0286	1.029
0451 003.	**0453** 003.	3.0	125	0.0227	1.650
0451 3.15	**0453** 3.15	3.15	125	0.0215	1.920
0451 03.5	**0453** 03.5	3.5	125	0.0200	2.469
0451 004.	**0453** 004.	4	125	0.0160	3.152
0451 005.	**0453** 005.	5	125	0.0125	5.566
0451 06.3	**0453** 06.3	6.3	125	0.0096	9.17
0451 007.	**0453** 007.	7	125	0.0090	10.32
0451 008.	**0453** 008.	8	125	0.0077	20.23
0451 010.	**0453** 010.	10	125	0.0056	26.46
0451 012.	**0453** 012.	12	65	0.0049	47.97
0451 015.	**0453** 015.	15	65	0.0037	97.82

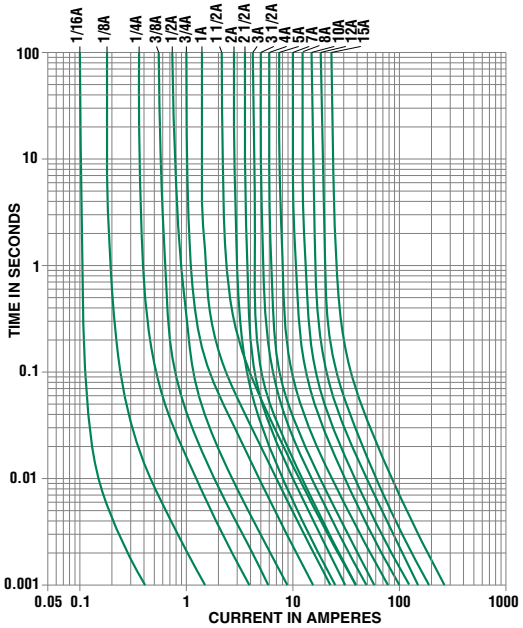
Refer to pg. 374 for SMF Omni-Blok® Holder, Series **154** 000.





Recommended pad layout

Average Time Current Curves



PHYSICAL SPECIFICATIONS:

Materials: Body: Ceramic
Terminations: Tin-Lead Alloy
RoHS Compliant Terminations: Gold over Nickel Plated Caps(451)
Silver Plated Caps(453)

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.

Options: For RoHS Compliant 451 series add the letter 'L' to end of packaging suffix. Example: 0451001.MRL (RoHS Compliant 1A, 1,000 per reel).

PATENTED

Littelfuse®

NANO²® Very Fast-Acting
0451/0453 Series