







451/453 Series

Very Fast-Acting Fuse

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec)	Agency Approvals					
											
.062	.062	125	50A @125VAC/VDC 300A @32VDC PSE: 100A @100VAC	5.5000	0.00019	-	X	-	X	-	-
.080	.080	125		4.0500	0.00033	-	X	-	X	-	-
.100	.100	125		3.1000	0.00138	-	X	-	X	-	-
.125	.125	125		1.7000	0.00286	-	X	-	X	-	-
.160	.160	125		1.2157	0.0048	-	X	-	X	-	-
.200	.200	125		0.8372	0.0089	-	X	-	X	-	-
.250	.250	125		0.5765	0.0158	-	X	-	X	-	-
.315	.315	125		0.3918	0.0311	-	X	-	X	-	-
.375	.375	125		0.4541	0.0442	-	X	-	X	-	-
.400	.400	125		0.4233	0.0551	-	X	-	X	-	-
.500	.500	125		0.3046	0.0824	-	X	-	X	-	-
.630	.630	125		0.2022	0.1381	-	X	-	X	-	-
.750	.750	125		0.1444	0.2143	-	X	-	X	-	-
.800	.800	125		0.1355	0.2654	-	X	-	X	-	-
1.00	001.	125		0.0780	0.6029	-	X	X	X	X	X
1.25	1.25	125		0.0780	0.664	-	X	X	X	X	X
1.50	01.5	125		0.0630	0.853	-	X	X	X	-	-
1.60	01.6	125		0.0580	1.060	-	X	X	X	-	-
2.00	002.	125	50A @125VAC/VDC 10,000A @75VDC 300A @32VDC PSE: 100A @100VAC	0.0367	0.530	-	X	X	X	X	X
2.50	02.5	125		0.0286	1.029	-	X	X	X	X	X
3.00	003.	125		0.0227	1.650	-	X	X	X	-	-
3.15	3.15	125		0.0215	1.920	-	X	X	X	X	X
3.50	03.5	125		0.0200	2.469	-	X	X	X	-	-
4.00	004.	125		0.0160	3.152	-	X	X	X	X	X
5.00	005.	125		0.0125	5.566	-	X	X	X	X	X
6.30	06.3	125	50A @125VAC/VDC 400A @32VDC PSE: 100A @100VAC	0.0096	9.170	X	X	X	-	-	-
7.00	007.	125		0.0090	10.32	X	X	X	-	X	X
8.00	008.	125		0.0077	20.23	X	X	X	-	X	X
10.0	010.	125	35A @125 VAC/ 50A @125 VDC 400A @32 VDC PSE: 100A @100VAC	0.0056	26.46	X	X	X	-	X	X
12.0	012.	65	150A @65VDC	0.0049	47.97	X	X	-	-	X	X
15.0	015.	65	100A @65VAC	0.0037	97.82	X	X	-	-	-	-
20.0	020.	65	400A @32VDC	0.00244	154	X	-	-	-	X	X

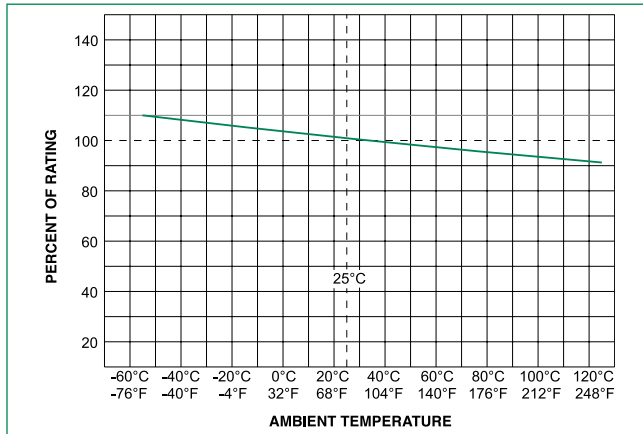
Notes:

- I²t calculated at 8ms.
- Resistance is measured at 10% of rated current, 25°C

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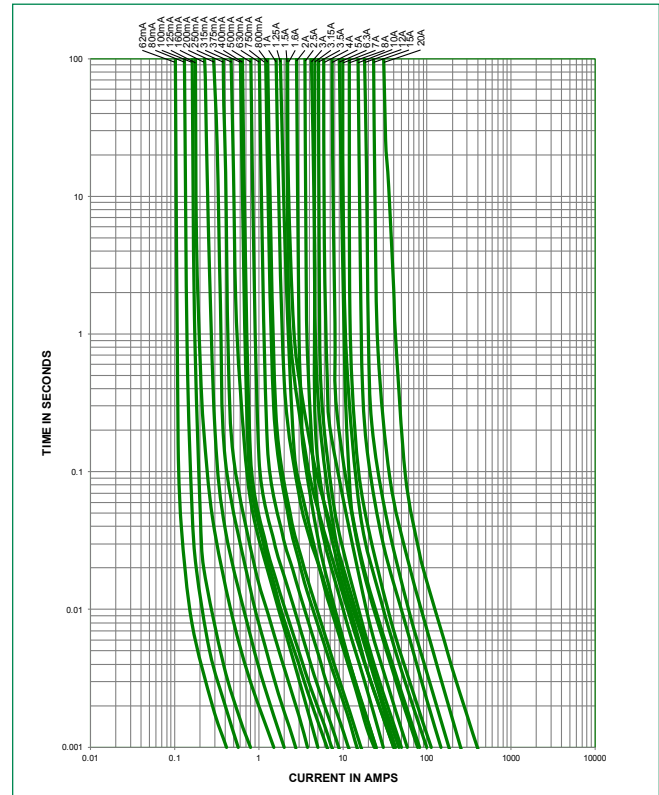
Temperature Re-rating Curve



Note:

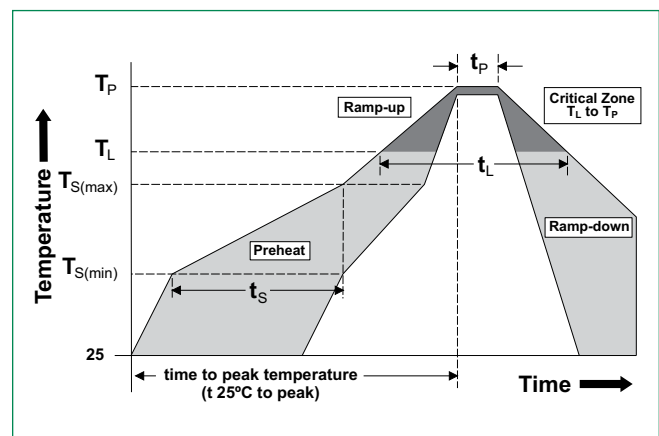
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (Min to Max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		5°C/second max.
$T_{s(max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 $^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max.
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C
Wave Soldering Parameters		260°C Peak Temperature, 10 seconds max.



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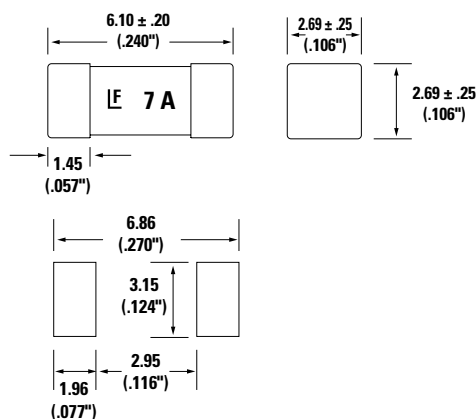
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Product Characteristics

Materials	Body: Ceramic Terminations: Gold-Plated Caps / Sn-dipped Silver Plated Caps (451 RoHS/HF series) Silver-plated Caps (451MR RoHS ratings below 375mA and 453 RoHS Series)
Product Marking	Brand, Ampere Rating
Operating Temperature	-55°C to 125°C
Moisture Sensitivity Level	Level 1, J-STD-020
Solderability	MIL-STD-202, Method 208
Insulation Resistance (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms minimum)

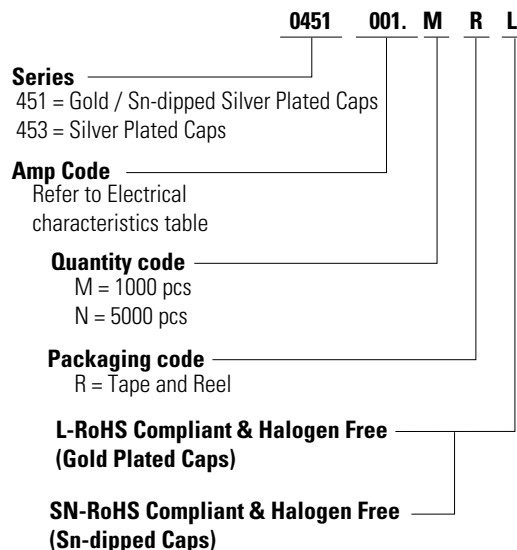
Thermal Shock	MIL-STD-202, Method 107, Test Condition B, 5 cycles, -65°C / +125°C, 15 minutes @ each extreme
Mechanical Shock	MIL-STD-202, Method 213, Test I: Deenergized. 100G's pk amplitude, sawtooth wave 6ms duration, 3 cycles XYZ+xyz = 18 shocks
Vibration	MIL-STD-202, Method 201: 0.03" amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs
Moisture Resistance	MIL-STD-202, Method 106, 10 cycles
Salt Spray	MIL-STD-202, Method 101, Test Condition B (48hrs)
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test condition B (10 sec at 260°C)

Dimensions



Recommended pad layout

Part Numbering System



Note: "L" suffix applies to 451 series only
- 453 series is available only as RoHS compliant version and does not require "L" suffix. Please do not include "L" suffix within 453 series ordering instructions.

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
12mm Tape and Reel	EIA RS-481-2 (IEC 286, part 3)	5000	NR
12mm Tape and Reel	EIA RS-481-2 (IEC 286, part 3)	1000	MR

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