

303 Series

TR3, Fast-Acting Fuse



Description

The 303 Series are TR3, fast-acting type, 125V rated fuses designed in accordance to UL 248-14.

Features & Benefits

- Reduced PCB space requirements
- Direct solderable or plug-in versions
- Internationally approved
- Low internal resistance
- Shock safe casing
- Vibration resistant
- RoHS compliant, Lead-Free and Halogen-Free
- Available from 0.050A to 5A

Additional Information



Resources



Accessories



Samples

Electrical Characteristics

% of Ampere Rating	Opening Time
200	60 Seconds, Maximum

Applications

- Battery chargers
- Consumer electronics
- Power supplies
- Industrial controllers

Agency Approvals

Agency	Agency File Number	Ampere Range
UL	E67006	0.050A - 5A
SF	051378	0.050A - 5A
UK CA	NA	0.050A - 5A

Electrical Characteristics

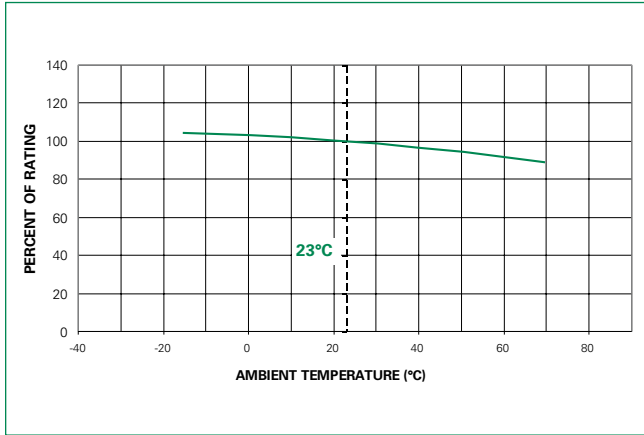
Amp Code	Rated Current	Voltage Rating	Breaking Capacity	Nominal Cold Resistance (Ohms)	Voltage Drop $1.0 \times I_N$ max. (mV)	Power Dissipation $1.0 \times I_N$ max. (mW)	Melting Integral $10 \times I_N$ max. (A ² s)	Approvals			
								UL	UK CA	SF	
0050	50mA	125V	50A @ 125VAC	2.9203	800	40	0.00007	X	X	X	
0063	63mA	125V		2.7400	780	50	0.00013	X	X	X	
0080	80mA	125V		2.2300	730	60	0.0002	X	X	X	
0100	100mA	125V		4.3800	700	70	0.0004	X	X	X	
0125	125mA	125V		3.4605	650	85	0.0022	X	X	X	
0160	160mA	125V		2.1687	600	100	0.0029	X	X	X	
0200	200mA	125V		1.3500	550	110	0.0042	X	X	X	
0250	250mA	125V		1.1500	500	125	0.0082	X	X	X	
0315	315mA	125V		0.9645	450	145	0.015	X	X	X	
0400	400mA	125V		0.8050	400	160	0.025	X	X	X	
0500	500mA	125V		0.5320	380	190	0.042	X	X	X	
0630	630mA	125V		50A @ 63VDC	0.1448	160	100	0.015	X	X	X
0800	800mA	125V			0.1023	155	125	0.025	X	X	X
1100	1.00A	125V			0.0830	150	155	0.039	X	X	X
1125	1.25A	125V			0.0644	145	185	0.059	X	X	X
1160	1.60A	125V	0.0520		140	225	0.11	X	X	X	
1200	2.00A	125V	0.0400		130	260	0.17	X	X	X	
1250	2.50A	125V	0.0307		125	315	0.23	X	X	X	
1315	3.15A	125V	0.0262		120	380	0.45	X	X	X	
1400	4.00A	125V	0.0178		110	440	1.0	X	X	X	
1500	5.00A	125V	0.0131	105	525	1.5	X	X	X		

Note: 1.00 means the number one with two decimal places. 1,000 means the number one thousand.

303 Series

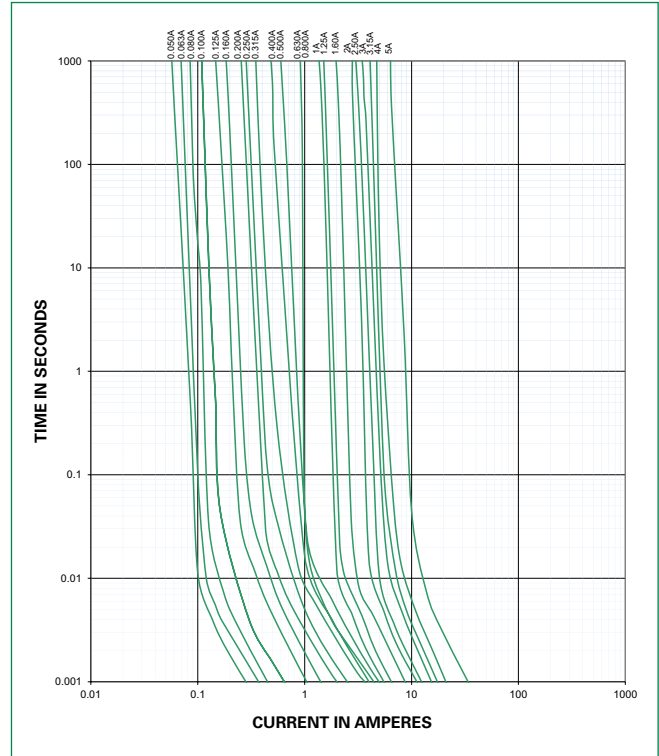
TR3, Fast-Acting Fuse

Temperature Re-rating Curve



Note: Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260°C Maximum
Solder Dwell Time:	2-5 seconds

Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350°C +/- 5°C
 Heating Time: 5 seconds max.

Note: These devices are not recommended for IR or Convection Reflow process.

303 Series

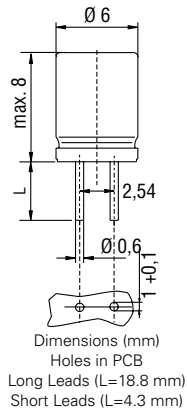
TR3, Fast-Acting Fuse

Product Characteristics

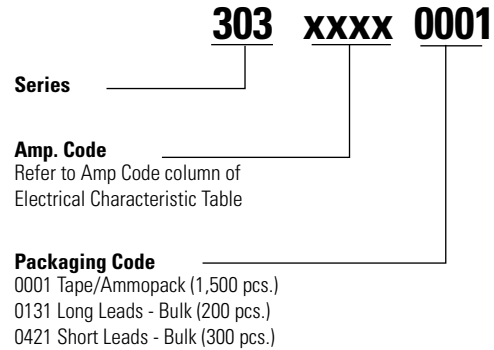
Materials	Base/Cap: Black Thermoplastic Base Polyamide PA 6.6, UL 94V-0 Brass, Nickel-plated Cap Round Pins: Copper alloy, Tin-plated
Lead Pull Strength	10 N (IEC 60068-2-21)
Solderability	260°C, ≤ 3s. (Wave) 350°C, ≤ 1s. (Soldering Iron)
Soldering Heat Resistance	260°C, 10s. (IEC 60068-2-20) 350°C, 3s. (Soldering Iron)

Operating Temperature	-25°C to +70°C (consider de-rating)
Climatic Category	-25°C/+70°C/21 days (IEC 60068-1-3)
Stock Conditions	+10°C to +60°C RH, ≤75% yearly average, without dew 24 cycles at 15 min. each (IEC 60068-6)
Vibration Resistance	10 - 60 Hz at 0.75 mm amplitude 60 - 2000 Hz at 10 g acceleration

Dimensions



Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Reel Size
303 Series				
Tape & Ammopack	N/A	1,500	0001	N/A
Long Leads	N/A	200	0131	N/A
Short Leads	N/A	300	0421	N/A

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: www.littelfuse.com/disclaimer-electronics.