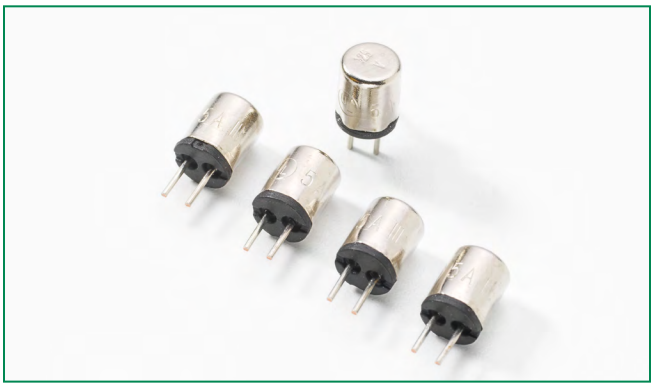
303 Series, TR3, Fast-Acting Fuse

RoHS Pb HF



Description

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

Features

- 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

Agency Approvals

Agency	Agency File Number	Ampere Range
UL	E67006	0.050A - 5A
CSA	051378	0.050A - 5A

Applications

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

Electrical Characteristics

% of Ampere Rating	Opening Time
200	60 Seconds, Maximum

Additional Information

Datasheet | Resources | Samples

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^2s)	Approvals	
								UL	CSA
0050	50mA	125V	50A @ 125VAC 50A @ 63VDC	2.9203	800	40	0.00007	X	X
0063	63mA	125V		2.7400	780	50	0.00013	X	X
0080	80mA	125V		2.2300	730	60	0.0002	X	X
0100	100mA	125V		4.3800	700	70	0.0004	X	X
0125	125mA	125V		3.4605	650	85	0.0022	X	X
0160	160mA	125V		2.1687	600	100	0.0029	X	X
0200	200mA	125V		1.3500	550	110	0.0042	X	X
0250	250mA	125V		1.1500	500	125	0.0082	X	X
0315	315mA	125V		0.9645	450	145	0.015	X	X
0400	400mA	125V		0.8050	400	160	0.025	X	X
0500	500mA	125V		0.5320	380	190	0.042	X	X
0630	630mA	125V		0.1448	160	100	0.015	X	X
0800	800mA	125V		0.1023	155	125	0.025	X	X
1100	1.00A	125V		0.0830	150	155	0.039	X	X
1125	1.25A	125V		0.0644	145	185	0.059	X	X
1160	1.60A	125V		0.0520	140	225	0.11	X	X
1200	2.00A	125V		0.0400	130	260	0.17	X	X
1250	2.50A	125V		0.0307	125	315	0.23	X	X
1315	3.15A	125V		0.0262	120	380	0.45	X	X
1400	4.00A	125V		0.0178	110	440	1.0	X	X
1500	5.00A	125V		0.0131	105	525	1.5	X	X

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

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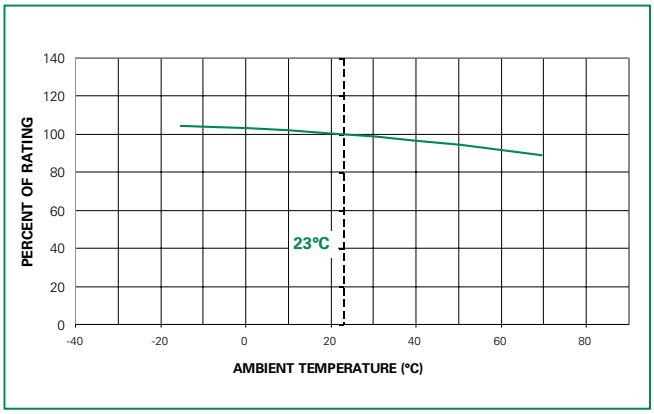
Radial Lead Fuses

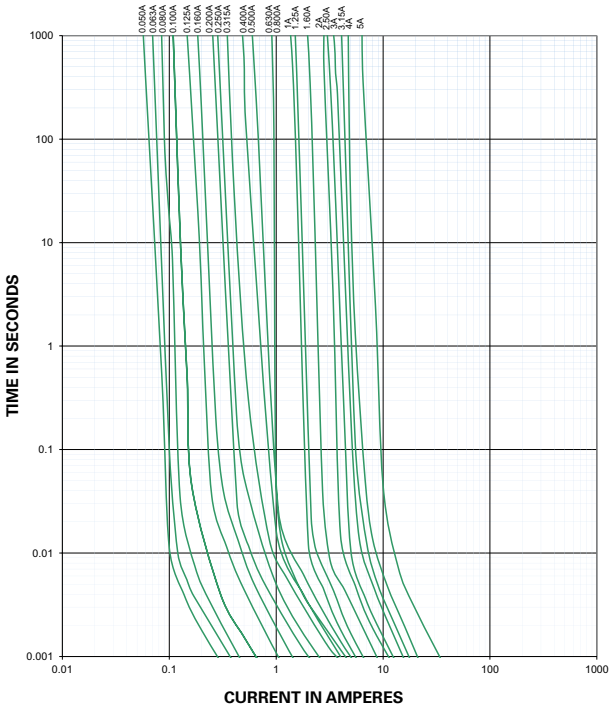
TR3 > Fast-Acting Fuse > 303 Series

Temperature Re-rating Curve

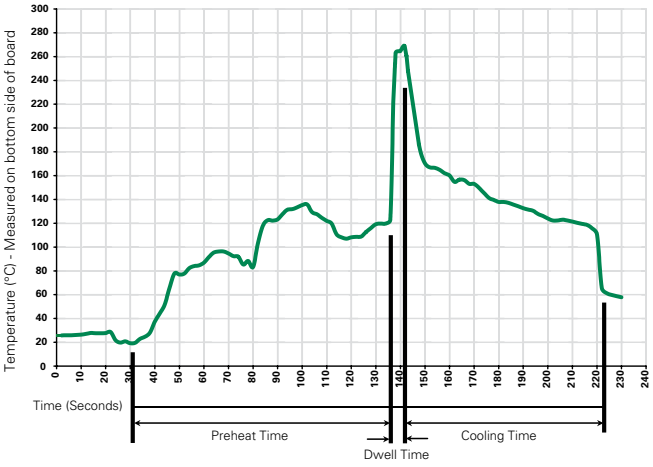


Note
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - 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.

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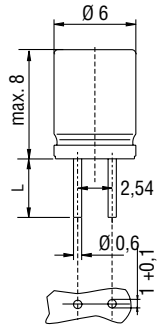
Product Characteristics

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
Vibration Resistance	24 cycles at 15 min. each (IEC 60068-6) 10 - 60 Hz at 0.75 mm amplitude 60 - 2000 Hz at 10 g acceleration

Dimensions



Dimensions (mm)
Holes in PCB
Long Leads (L=18.8 mm)
Short Leads (L=4.3 mm)

Part Numbering System

303 xxxx 0001

Series

Amp. Code
Refer to Amp Code column of
Electrical Characteristic Table

Packaging Code
0001 Tape/Ammopack (1,500 pcs.)
0131 Long Leads - Bulk (200 pcs.)
0421 Short Leads - Bulk (300 pcs.)

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

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