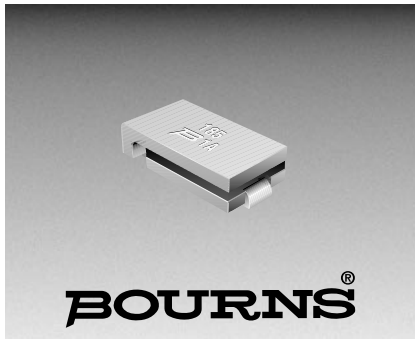




Features

- Surface Mount Devices
- Fully compatible with current industry standards
- Packaged per EIA 481-2 standard
- Agency recognition:   
- Patents pending

Applications

Almost anywhere there is a low voltage power supply and a load to be protected, including:

- IEEE 1394
- Computers & peripherals
- General electronics

MF-SM/33 Series - PTC Resettable Fuses

Electrical Characteristics

Model	V max. Volts	I max. Amps	I _{hold}	I _{trip}	Resistance		Max. Time To Trip		Tripped Power Dissipation
			Amperes at 23°C		Ohms at 23°C		Amperes at 23°C	Seconds at 23°C	Watts at 23°C
			Hold	Trip	R _{Min.}	R _{1Max.}			
MF-SM100/33	33	40	1.0	2.00	0.12	0.41	8.0	0.5	1.7
MF-SM150/33	33	40	1.5	3.00	0.06	0.23	8.0	5.0	1.9
MF-SM185/33	33	40	1.8	3.60	0.04	0.15	8.0	5.0	1.2

NEW!

Environmental Characteristics

Operating/Storage Temperature-40°C to +85°C
 Maximum Device Surface Temperature
 in Tripped State.....125°C
 Passive Aging+85°C, 1000 hours±5% typical resistance change
 Humidity Aging+85°C, 85% R.H. 7 days±5% typical resistance change
 Thermal ShockMIL-STD-202F, Method 107G,±10% typical resistance change
 +125°C to -55°C, 10 cycles
 VibrationMIL-STD-883C, Method 2007.1,No change
 Condition A

Test Procedures And Requirements For Model MF-SM/33 Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per MF physical description
Resistance	In still air @ 23°C.....	R _{min} ≤ R ≤ R _{max}
Time to Trip.....	At specified current, V _{max} , 23°C	T ≤ max. time to trip (seconds)
Hold Current	30 min. at I _{hold}	No trip
Trip Cycle Life	V _{max} , I _{max} , 100 cycles	No arcing or burning
Trip Endurance	V _{max} , 48 hours.....	No arcing or burning
Solderability	MIL-STD-202F, Method 208F	95% min. coverage
UL File Number.....	E 174545S	
CSA File Number	CA 110338	
TÜV File Number	R2057213	

Thermal Derating Chart - I_{hold} (Amps)

Model	Ambient Operating Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
MF-SM100/33	1.66	1.47	1.29	1.10	0.91	0.83	0.73	0.64	0.50
MF-SM150/33	2.27	2.01	1.76	1.50	1.25	1.13	1.00	0.87	0.68
MF-SM185/33	2.56	2.32	2.08	1.80	1.60	1.44	1.28	1.12	0.88

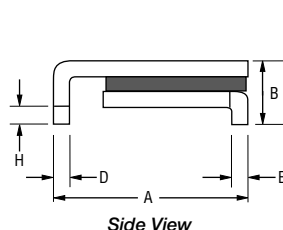
*I_{trip} is approximately two times I_{hold}.

MF-SM/33 Series - PTC Resettable Fuses

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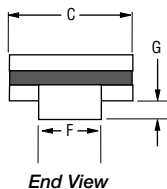
Product Dimensions

Model	A		B	C	D		E		F		G		H
	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
MF-SM100/33	6.73 (0.265)	7.98 (0.314)	3.00 (0.118)	5.44 (0.214)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	2.16 (0.085)	2.41 (0.095)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)
MF-SM150/33	8.00 (0.315)	9.50 (0.374)	3.00 (0.118)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)
MF-SM185/33	8.00 (0.315)	9.50 (0.374)	3.00 (0.118)	6.71 (0.264)	0.56 (0.022)	0.71 (0.028)	0.56 (0.022)	0.71 (0.028)	3.68 (0.145)	3.94 (0.155)	0.66 (0.026)	1.37 (0.054)	0.43 (0.017)

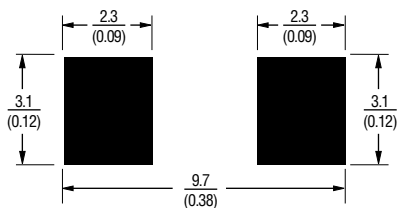


DIMENSIONS = $\frac{\text{MM}}{\text{(INCHES)}}$

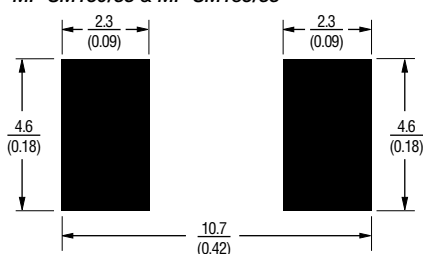
Terminal material:
Tin-plated brass



Recommended Pad Layout - MF-SM100/33

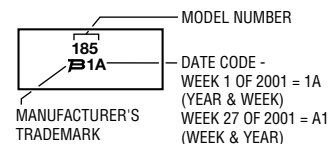


Recommended Pad Layout - MF-SM150/33 & MF-SM185/33

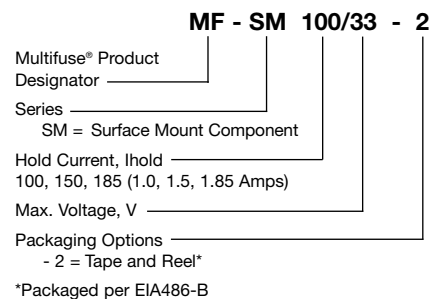


Typical Part Marking

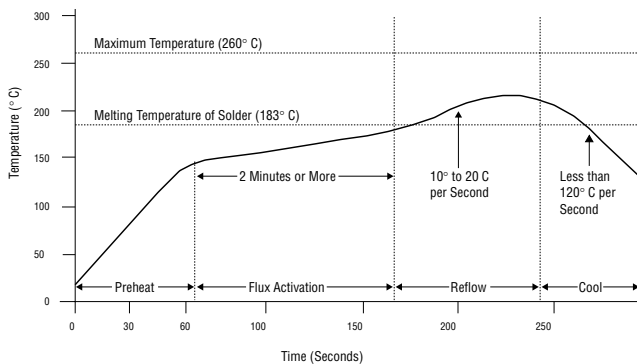
Represents total content. Layout may vary.



How to Order



Solder Reflow Recommendations



Solder reflow

- Recommended reflow methods: IR, vapor phase oven, hot air oven.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Gluing the devices is not recommended.
- Recommended maximum paste thickness is 0.25 mm (.010 inch).
- Devices can be cleaned using standard industry methods and solvents.

Note:

- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

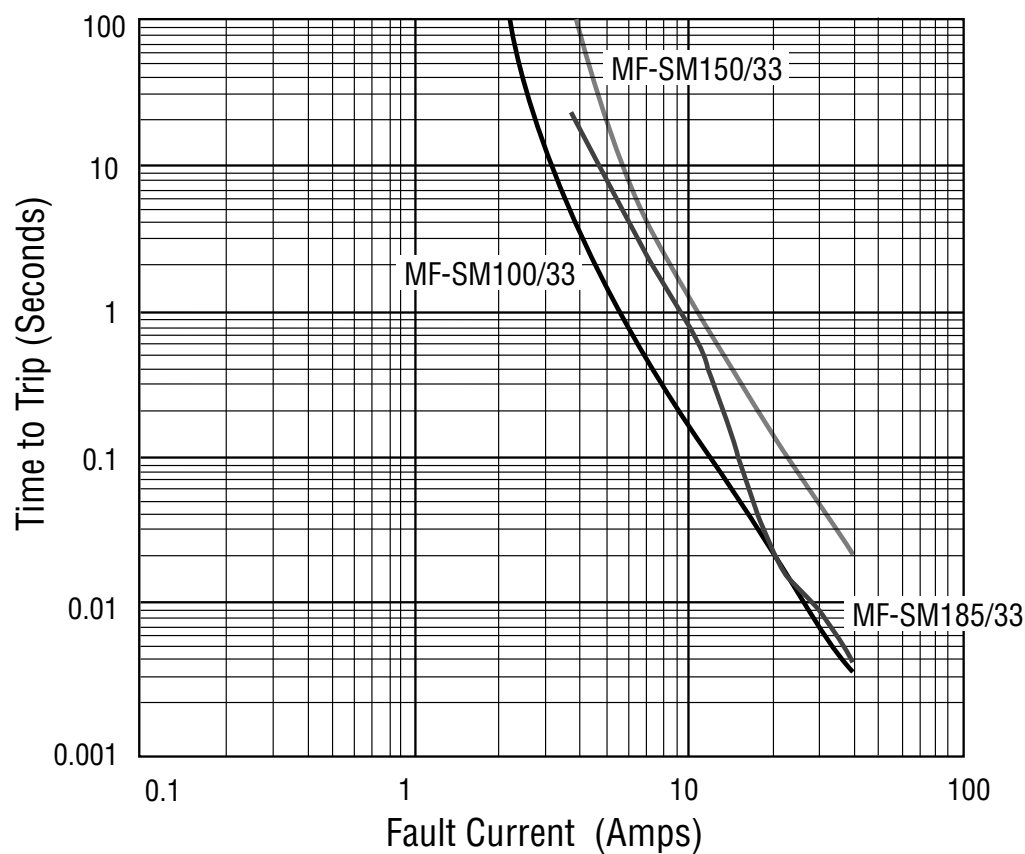
Rework

- A device should not be reworked.

MF-SM/33 Series - PTC Resettable Fuses

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Typical Time to Trip at 23°C



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