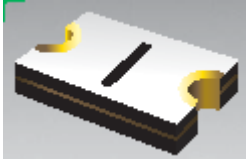


# Fast Acting PTC Resettable Fuse

## SMD - Case Style 0603



### Features:

- Compact design to save board space-0603 footprint.
- Small size results in very fast time to react to fault events.
- Low profile.
- Halogen free.



### Applications:

USB port protection.  
PC motherboards - Plug and Play protection.  
Mobile phones - Battery and port protection.  
PDAs/digital cameras.  
Automotive electronic control modules.  
Game console port protection.  
HDMI ports.

### Electrical Characteristics

Maximum Volts (V)	Maximum Amperes (I)	$I_{hold}$	$I_{trip}$	Resistance		Maximum Time To Trip		Tripped Power Dissipation	Part Number
		Amperes at 23°C		Ohms at 23°C		Amperes at 23°C	Seconds at 23°C	Watts at 23°C	
		Hold	Trip	R Minimum	R <sub>1</sub> Maximum			Typical	
9	40	0.20	0.50	0.550	3.500	1.00	0.60	0.5	MF-FSMF020X
6		0.35	0.75	0.200	1.400	8.00	0.10		MF-FSMF035X
		0.50	1.00	0.100	0.800				MF-FSMF050X***

\*\*\*UL approval pending.

Dimensions : Millimetres

### Environmental Characteristics

Operating 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. 1000 hours.... ±5% typical resistance change.
Thermal Shock	: +85°C to -40°C, 20 times.... ±10% typical resistance change.
Solvent Resistance	: MIL-STD-202, Method 215.... No change.
Vibration	: MIL-STD-883C, Method 2007.1....., No change Condition A

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### Test Procedures and Requirements for Model MF-FSMF Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech	Verify dimensions and materials	Per MF physical description
Resistance	In still air at 23°C	$R \text{ minimum} \leq R \leq R1 \text{ maximum}$
Time to Trip	At specified current, V maximum, 23°C	$T \leq \text{maximum time to trip (seconds)}$
Hold Current	30 minimum at I hold	No trip
Trip Cycle Life	V maximum, I maximum, 100 cycles	No arcing or burning
Trip Endurance	V maximum, 48 hours	No arcing or burning
Solderability	ANSI/J-STD-002	95% minimum coverage

### Thermal Derating Chart - $I_{\text{hold}}$ (Amperes)

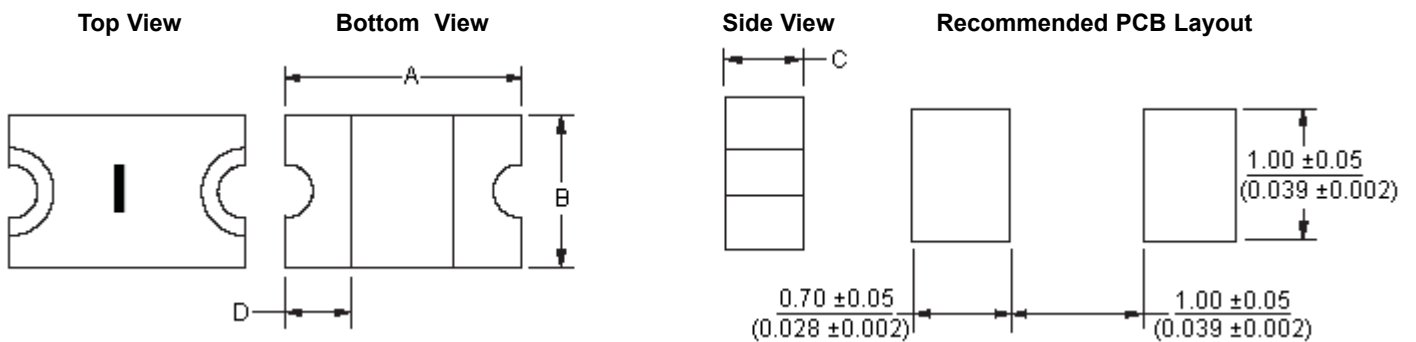
Model	Ambient Operating Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
MF-FSMF020X	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
MF-FSMF035X	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14
MF-FSMF050X	0.67	0.59	0.54	0.50	0.41	0.37	0.34	0.29	0.20

Dimensions: Millimetres

### Product Dimensions

Model	A		B		C		D
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
MF-FSMF020X	1.45 (0.057)	1.85 (0.073)	0.65 (0.026)	1.05 (0.041)	0.30 (0.012)	0.65 (0.026)	0.20 (0.008)
MF-FSMF035X					0.65 (0.026)	1.00 (0.039)	
MF-FSMF050X							

Dimensions: Millimetres (Inches)



Dimensions: Millimetres (Inches)

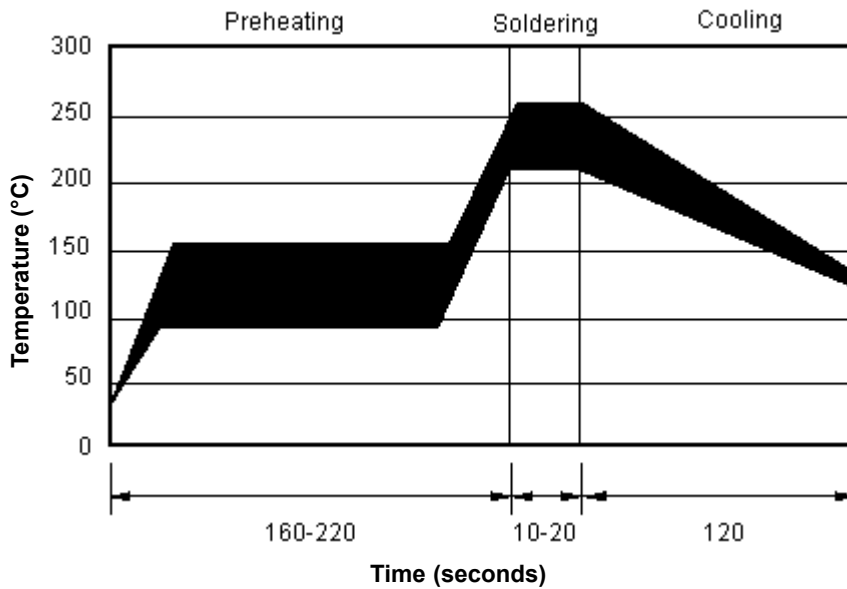
# Fast Acting PTC Resettable Fuse

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Terminal material : Nickel/gold plated.  
**Termination pad solderability:**  
Standard Au finish : Meets ANSI/J-STD-002 Category 2.  
Recommended Storage : 40°C maximum/70% RH maximum.

### Solder Reflow Recommendations



#### Notes:

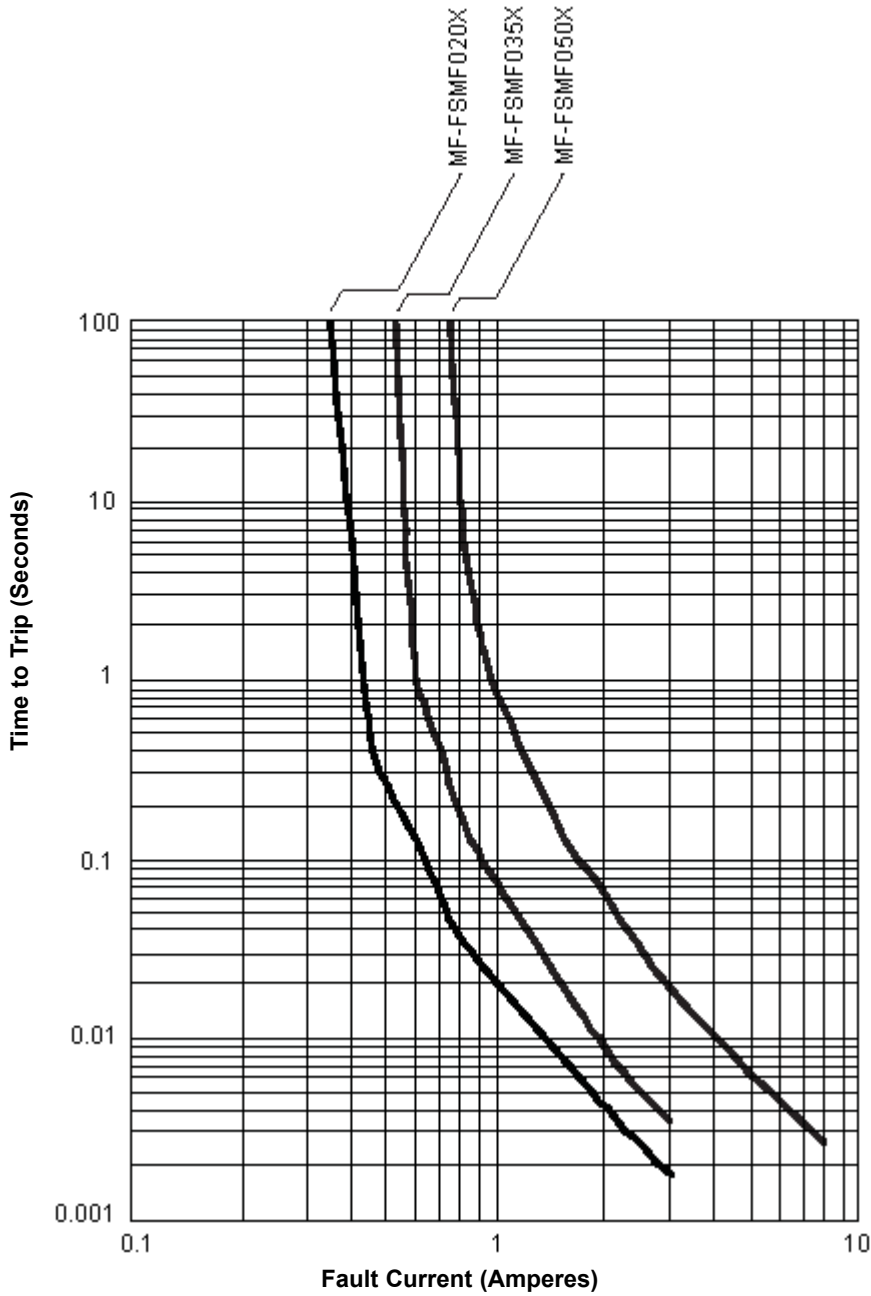
MF-FSMF models cannot be wave soldered. Please contact Multicomp for hand soldering recommendations.  
If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.  
Compatible with Pb and Pb-free solder reflow profiles.

# Fast Acting PTC Resettable Fuse

## SMD - Case Style 0603



### Typical Time to Trip at 23°C



The Time to Trip curves represent typical performance of a device in a simulated application environment. Actual performance in specific customer applications may differ from these values due to the influence of other variables.

