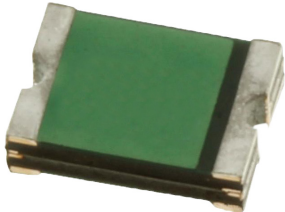


Surface Mountable PTC Resettable Fuse

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**RoHS
Compliant**

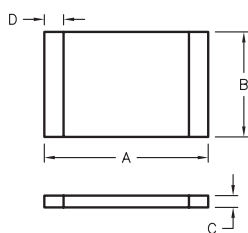


Specifications

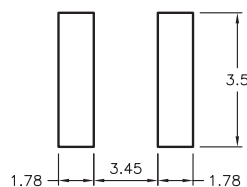
Lead Material	: Pure Tin
Soldering Characteristic	: Meets EIA specs. RS 186-9E, ANSI/J-std-002 Category 2
Operating Current	: 100mA to 2A
Maximum Voltage	: 6V to 60V
Temperature Range	: -40°C to 85°C

Profile Feature	Pb-Free Assembly
Average ramp-Up rate (T _{smax} to T _p)	3°C/second Max.
Preheat: Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (t _{smin} to t _{smax})	150°C 200°C 60-180 Seconds
Time maintained above Temperature (T _L) Time (t _L)	217°C 60-150 seconds
Peak/Classification Temperature (T_p)	260°C
Time within 5C of actual Peak Temperature (t _p)	20-40 seconds
Ramp-Down Rate :	6°C/second Max.
Time 25°C to Peal Temperature :	8 minutes Max.

Dimension



Pad Layout



Dimensions

Part Number	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	
MC33187	4.37	4.73	3.07	3.41	0.6	0.9	0.3
MC33188	4.37	4.73	3.07	3.41	0.6	0.9	0.3
MC33190	4.37	4.73	3.07	3.41	0.35	0.65	0.3
MC33193	4.37	4.73	3.07	3.41	0.35	0.65	0.3
MC33196	4.37	4.73	3.07	3.41	0.25	0.55	0.3

Dimensions : Millimetres

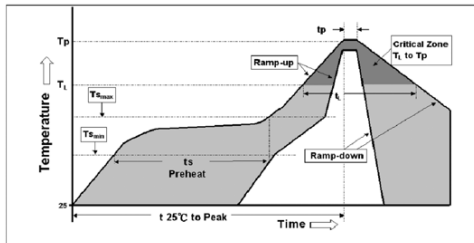
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Reflow Profile



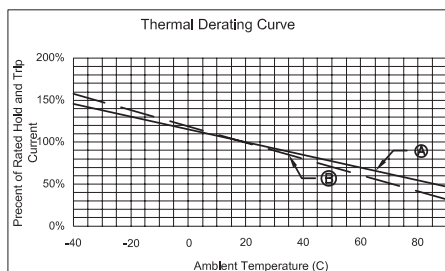
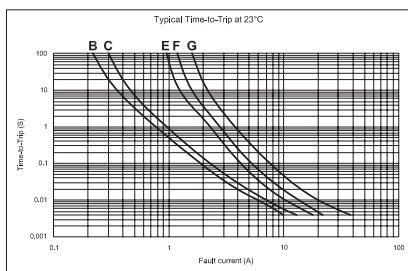
Solder Reflow

* Due to "lead Free" nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.

1. Recommended max past thickness > 0.25mm.
2. Devices can be cleaned using standard methods and aqueous solvent.
3. Rework use standard industry practices.
4. Storage Environment : < 30°C/60%RH

Caution

1. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
2. Devices are not designed to be wave soldered to the bottom side of the board.



Specifications Table

Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical power	Max. Time-to-Trip		Resistance Tolerance		Time-to-trip Curve Option	Thermal Derating Curve option	Part Number
					Current	Time	RMin	R1Max			
I _H , A	I _T , A	V _{Max} , V DC	I _{Max} , A	P _d , W	A	Sec	Ω	Ω			
0.14	0.3	60	10	0.8	8	0.008	1.2	6.5	B	B	MC33187
0.2	0.4	30	10	0.8	8	0.02	0.8	5	C	B	MC33188
0.5	1	16	40	0.8	8	0.15	0.15	1	E	B	MC33190
0.75	1.5	16	40	0.8	8	0.2	0.11	0.45	F	A	MC33193
1.1	2.2	8	100	0.8	8	0.3	0.4	0.21	G	A	MC33196

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