

Surface Mountable PTC Resettable Fuse



Specifications:

Applications	: All high-density boards
Product Features	: Small surface mountable, Solid state, Faster time to trip than standard SMD devices, Lower resistance than standard SMD devices
Operation Current	: 0.05A to 2.0A
Maximum Voltage	: 6V to 60V
Temperature Range	: -40°C to 85°C

Electrical Characteristics (23°C)

Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Maximum Time to Trip		Resistance		Part Number
					Current	Time	R Minimum	R1 Maximum	
I_H , A	I_T , A	V Maximum, V dc	I Maximum, A	Pd, W	Amp	Sec	ohms	ohms	
0.05	0.15	60	10	0.60	0.25	3.00	3.600	50.000	MC36203
0.10	0.25				0.50	1.50	1.600	15.000	MC36205
0.20	0.40	30	40	0.60	8.00	0.02	0.800	5.000	MC36208
0.35	0.70	16				0.20	0.320	1.300	MC36212
0.50	1.00		8	0.10	0.250	0.900	MC36214		
0.75	1.50	6	100	0.80	8.00	0.30	0.060	0.210	MC36223
1.10	2.20	6				0.50	0.040	0.110	MC36230
1.50	3.00	6	100	0.8	8.00	0.60	0.020	0.080	MC36236
1.75	4.00					1.00	0.015	0.070	MC36239
2.00									

I_H = Hold current-maximum current at which the device will not trip at 23°C still air.

I_T = Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX} = Maximum voltage device can withstand without damage at it rated current. (I maximum)

I_{MAX} = Maximum fault current device can withstand without damage at rated voltage (V maximum).

Pd = Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R_{MIN} = Minimum device resistance at 23°C prior to tripping.

$R1_{MAX}$ = Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

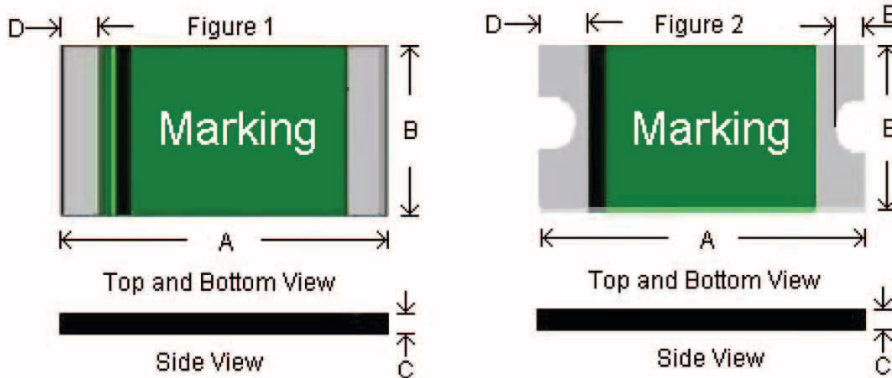
Termination pad characteristics

Termination pad materials : Pure Tin

Surface Mountable PTC Resettable Fuse



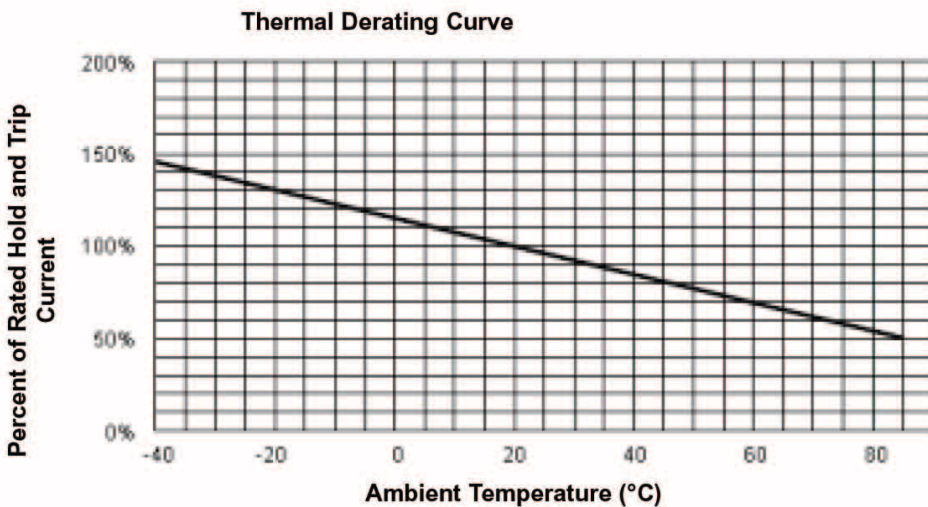
Production Dimensions (Millimetre)



Specifications Table

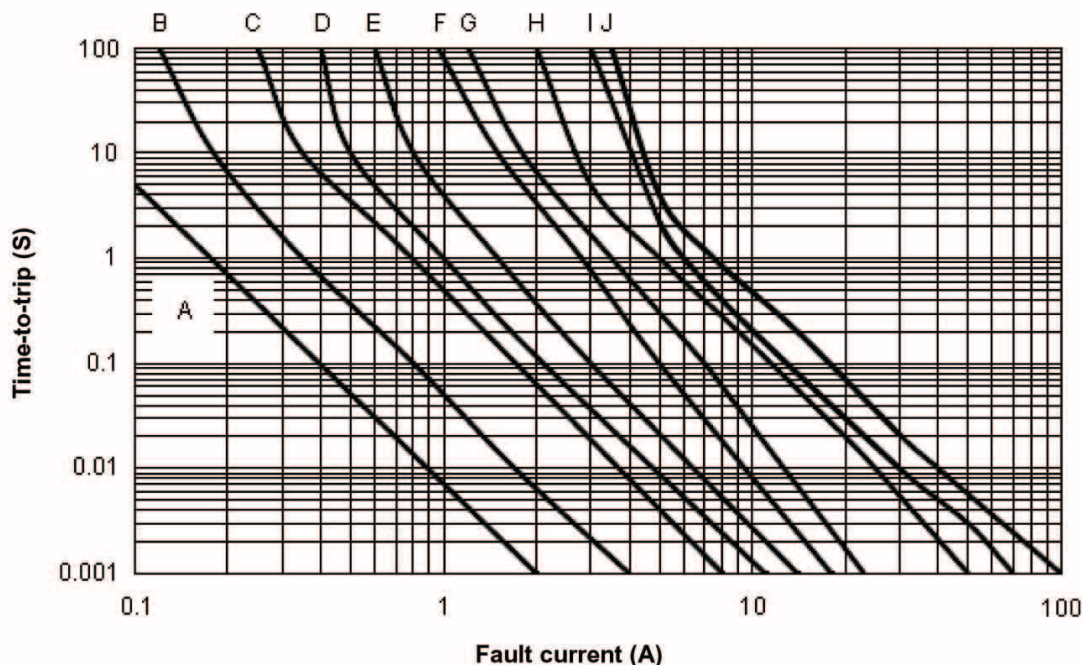
Figure	A		B		C		D		E		Part Number
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
1	3.00	3.43	2.35	2.80	0.60	1.15	0.25	0.75	-	-	MC36203
						1.15					MC36205
					0.40	0.85					MC36208
						0.80					MC36212
					0.30	0.75					MC36214
					0.30	0.70					MC36217
2	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45	MC36223
					0.50	0.90					MC36230
					0.80	1.40					MC36236

Thermal Derating Curve



Typical Time-To-Trip at 23°C

A=MC36203
B=MC36205
C=MC36208
D=MC36212
E=MC36214
F=MC36217
G=MC36223
H=MC36230
I=MC36236
J=MC36239

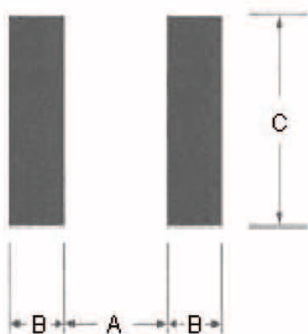


Material Specification

Terminal pad material : Pure Tin
 Soldering characteristics : Meets EIA specification RS 186-9E, ANSI/J-std-002 Category 3

Pad Layouts, Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout for each FSMD1812 device



Device	A Nominal	B Nominal	C Nominal
All 0805 Series	1.20	1.00	1.50

Dimensions : Millimetres

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Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Ts maximum to Tp)	3°C/second maximum
Preheat: Temperature Minimum (Ts minimum)	150°C
Temperature Maximum (Ts maximum)	200°C
Time (ts minimum to ts maximum)	60 to 180 seconds

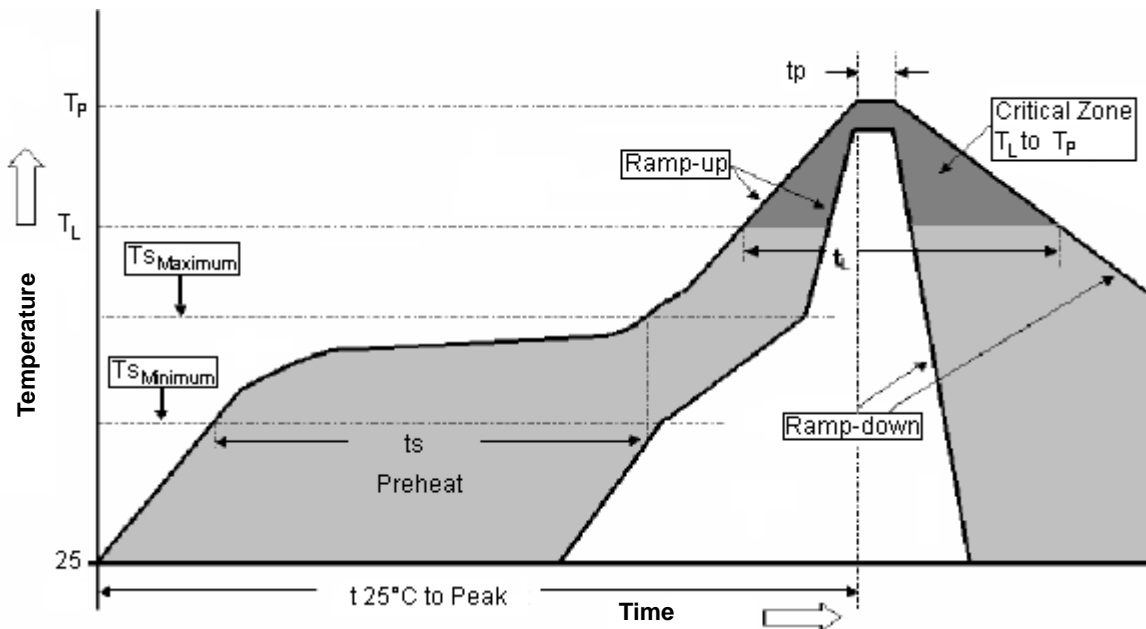
Solder reflow

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.



Surface Mountable PTC Resettable Fuse



Part Number Table

Description	Part Number
Surface Mountable PTC Resettable Fuse	MC36203
Surface Mountable PTC Resettable Fuse	MC36205
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Surface Mountable PTC Resettable Fuse	MC36236
Surface Mountable PTC Resettable Fuse	MC36239

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