Resettable Fuse

multicomp PRO

RoHS Compliant

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	: 0.2A to 1A
Max. Voltage	: 6V to 15V
Temperature Range	: -40°C to +85°C

Electrical Characteristics (23°C)

Hold Current	Trip Current	Rated Voltage	Max. Current	Typical Power	Max. Time to Trip		Resistance		Part Number
					Current	Time	R Min.	R1 Max.	
IH, A	IT, A	V Max., V DC	I Max., A	Pd, W	Amp	Sec	ohms	ohms	
0.2	0.5	9	100	5	8	0.02	0.4	3.5	MC36206
0.35	0.75	6				0.1	0.25	1.2	MC36210
0.5	1						0.15	0.85	MC36213
0.75	1.5		40	0.6		0.2	0.09	0.35	MC36215
1	1.95					0.3	0.06	0.21	MC36220

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 its 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

Electrical Characteristics (23°C)

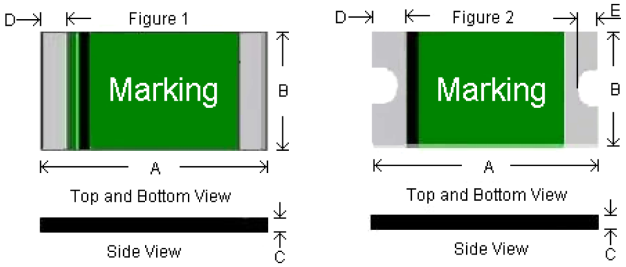
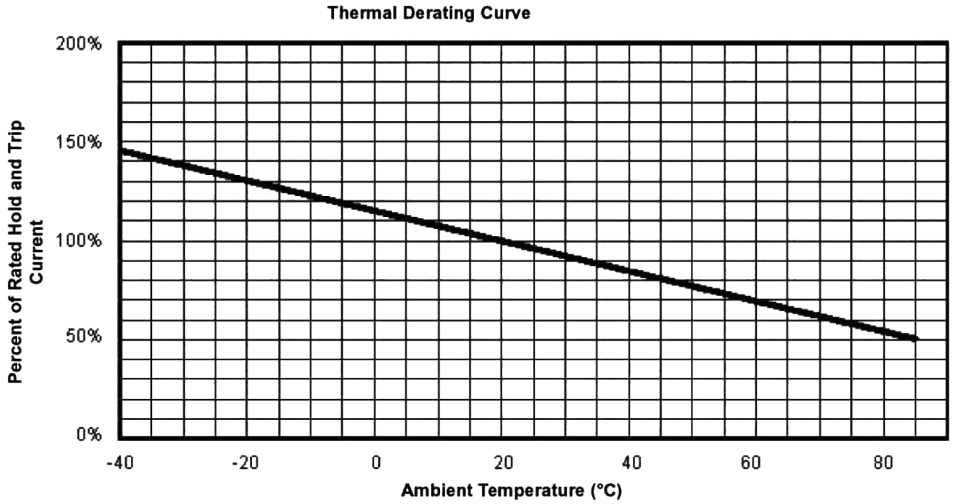


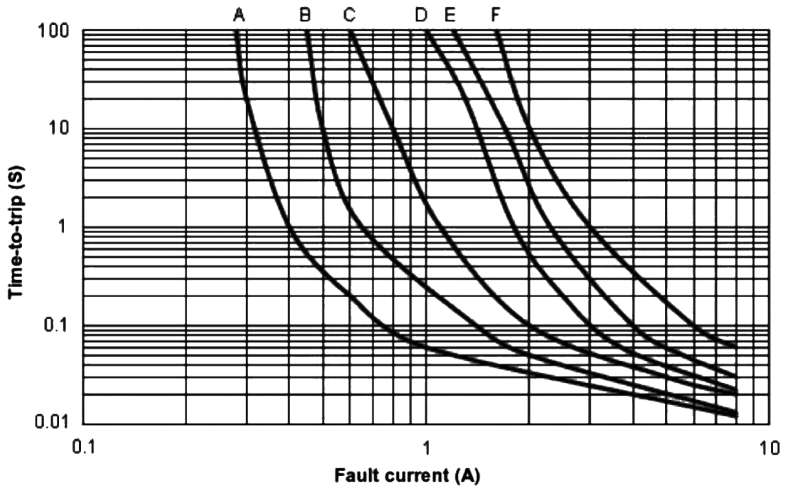
Figure	A		B		C		D		E		Part Number
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	2	2.3	1.2	1.5	0.55	1	0.2	0.6	-	-	MC36206
					0.45	0.75					MC36210
2		2.2			0.55	1.25			0.1	0.45	MC36213
											MC36215
					0.75	1.8					MC36220

Dimensions : Millimetres

Thermal Derating Curve



Typical Time-To-Trip at 23°C



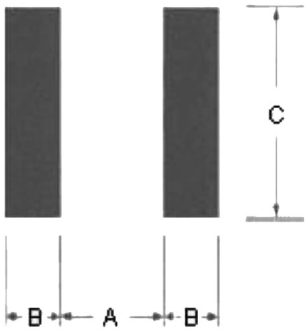
B=MC36206
C=MC36210
D=MC36213
E=MC36215
F=MC36220

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	1.2	1	1.5

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3°C/second maximum
Preheat : Temperature Minimum (Tsmin) Temperature Maximum (Tsmax) Time (tsmin to tsmax)	 150°C 200°C 60 to 180 seconds
Time maintained above: Temperature(TL) Time (tL)	 217°C 60 to 150 seconds
Peak/Classification Temperature(Tp)	260°C
Time within 5°C of actual Peak Temperature (tp)	20 to 40 seconds
Ramp-Down Rate	6°C/second maximum
Time 25°C to Peak Temperature	8 minutes maximum

Note 1: All temperatures refer to of the package, measured on the package body surface

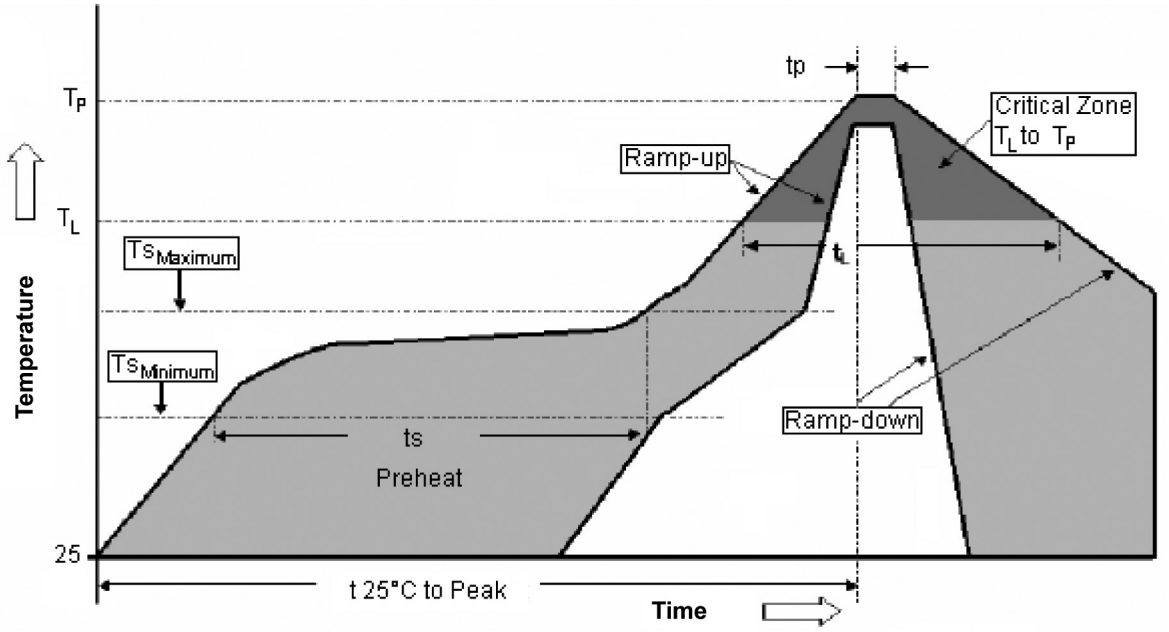
Solder Reflow:

Due to “Lead Free” nature, Temperature and Dwelling time for the soldering 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.



Part Number Table

Description	Part Number
Surface Mountable PTC Resettable Fuse	MC36206
	MC36210
	MC36213
	MC36215
	MC36220