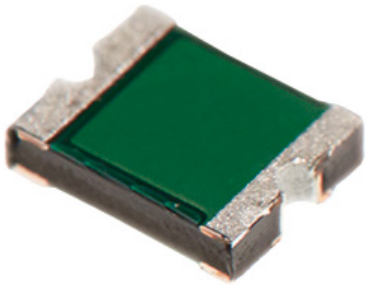
Surface Mountable PTC Resettable Fuse 1210

RoHS Compliant



Applications

All high density boards.

Features

- Small Surface Mountable
- Solid State
- Faster Time to Trip
- Lower Resistance
- -40°C to 85°C Temperature Range
- Halogen Free

Electrical Characteristics

Part Number	Hold Current	Trip Current	Rated Voltage	Max. Current	Typical Power	Max. Time to Trip		Resistance	
	I_H (A)	I_T (A)	V_{MAX} (V DC)	$I_{MAX.}$ (A)	Pd (W)	Current (A)	Time (Sec)	$R_{MIN.}$ (Ω)	$R1_{MAX.}$ (Ω)
MC011030	0.05	0.15	60	100	0.6	0.25	1.5	3.6	50
MC011031	0.1	0.25	60	100	0.6	0.5	1.5	1.6	15
MC011032	0.2	0.4	30	100	0.6	8	0.02	0.8	5
MC011033	0.35	0.7	16	100	0.6	8	0.2	0.32	1.3
MC011034	0.5	1	16	100	0.6	8	0.1	0.25	0.9
MC011035	0.75	1.5	8	100	0.6	8	0.1	0.13	0.4
MC011041	0.05	0.15	60	100	0.6	0.25	1.5	3.6	50
MC011042	0.1	0.25	60	100	0.6	0.5	1.5	1.6	15

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.($I_{MAX.}$)

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

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 materials: Pure Tin

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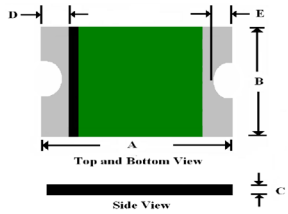
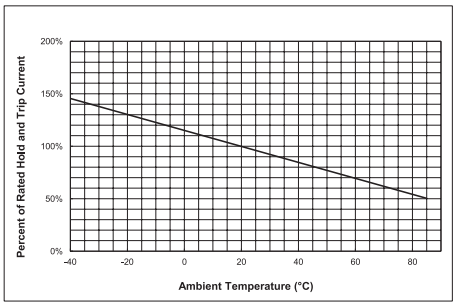
Dimensions



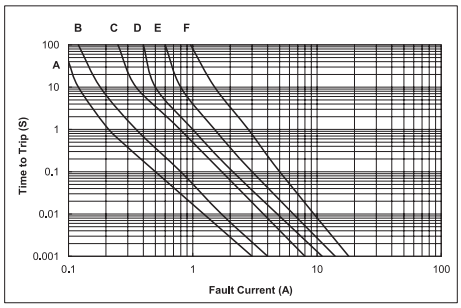
Part Number	A		B		C		D		E	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MC011030	3	3.43	2.35	2.8	0.6	1.15	0.25	0.75	0.1	0.45
MC011031	3	3.43	2.35	2.8	0.6	1.15	0.25	0.75	0.1	0.45
MC011032	3	3.43	2.35	2.8	0.4	0.85	0.25	0.75	0.1	0.45
MC011033	3	3.43	2.35	2.8	0.4	0.8	0.25	0.75	0.1	0.45
MC011034	3	3.43	2.35	2.8	0.3	0.75	0.25	0.75	0.1	0.45
MC011035	3	3.43	2.35	2.8	0.3	0.7	0.25	0.75	0.1	0.45
MC011041	3	3.43	2.35	2.8	0.6	1.15	0.25	0.75	0.1	0.45
MC011042	3	3.43	2.35	2.8	0.6	1.15	0.25	0.75	0.1	0.45

Dimensions : Millimetres

Thermal Derating Curve



Typical Time-To-Trip at 23°C



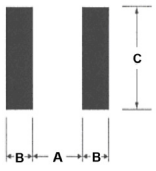
A = MC011030
B = MC011031
C = MC011032
D = MC011033
E = MC011034
F = MC011035
A = MC011041
B = MC011042

Material Specifications

- Terminal Pad Material: Pure Tin
- Soldering Characteristics: Meets EIA specifications 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.



Pad Dimensions

A Nominal	B Nominal	C Nominal
2mm	1mm	2.8mm

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3°C / second max.
Preheat: Temperature Min (Tsmin) Temperature Max (Tsmax) Time (tsmin to tsmax)	 150°C 200°C 60 - 180 seconds
Time Maintained Above: Temperature T(L) Time t(L)	 217°C 60 - 150 seconds
Peak/Classification Temperature (Tp):	260°C
Time within 5°C of Actual Peak: Temperature (tp)	 20 - 40 seconds
Ramp-Down Rate:	6°C / second max.
Time 25°C to Peak Temperature:	8 minutes max.

Note: 1. All temperature refers to the package; measured on the package body surface.

Solder Reflow:

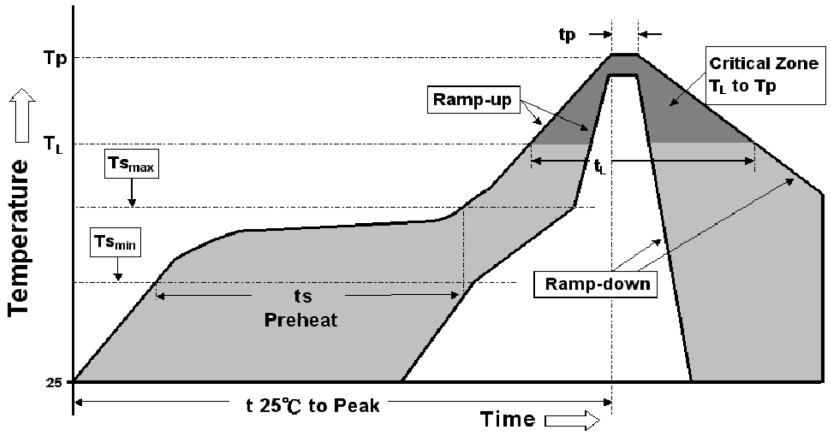
Due to “Lead Free” nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.

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.

Reflow Profile



Part Number Table

Description	Part Number
SMD PTC Resettable Fuse, 0.05A, 60V, 1210	MC011030
SMD PTC Resettable Fuse, 0.1A, 60V, 1210	MC011031
SMD PTC Resettable Fuse, 0.2A, 30V, 1210	MC011032
SMD PTC Resettable Fuse, 0.35A, 16V, 1210	MC011033
SMD PTC Resettable Fuse, 0.5A, 16V, 1210	MC011034
SMD PTC Resettable Fuse, 0.75A, 8V, 1210	MC011035
SMD PTC Resettable Fuse, 0.05A, 60V, 1210	MC011041
SMD PTC Resettable Fuse, 0.1A, 60V, 1210	MC011042