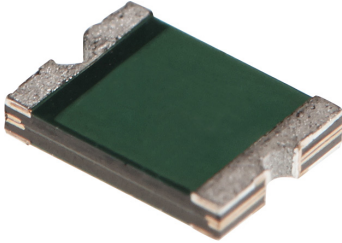


Surface Mountable PTC Resettable Fuse 1812

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**RoHS
Compliant**



Application

All high density boards.

Features

- Small Surface Mountable
- Solid State
- Faster Time to Trip
- Lower Resistance
- Operation Current: 0.2A to 3A
- Maximum Voltage: 6V to 60V DC
- -40°C to +85°C Temperature Range
- Halogen Free
- UL Approved

Electrical Characteristics (23°C)

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)	P _d (W)	Current (A)	Time (Sec)	R _{MIN.} (Ω)	R _{1MAX.} (Ω)
MC011429	0.2	0.4	60	100	0.8	8	0.02	0.8	5
MC011430	0.3	0.6	33	100	0.8	8	0.1	0.2	1.75
MC011431	0.35	0.7	30	100	0.8	8	0.1	0.32	1.5
MC011432	0.5	1	30	100	0.8	8	0.15	0.15	1
MC011433	1.1	2.2	30	100	0.8	8	0.5	0.06	0.2
MC011434	1.25	2.5	16	100	0.8	8	0.4	0.05	0.14
MC011435	1.6	3.2	24	100	1	8	1	0.03	0.1
MC011436	2	3.5	16	100	1	8	5	0.02	0.085
MC011437	3	5	6	100	1	8	4	0.012	0.04

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}.)

P_d = 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.

R_{1MAX} = 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

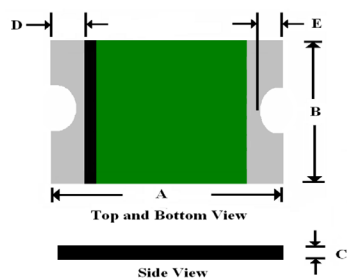
Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

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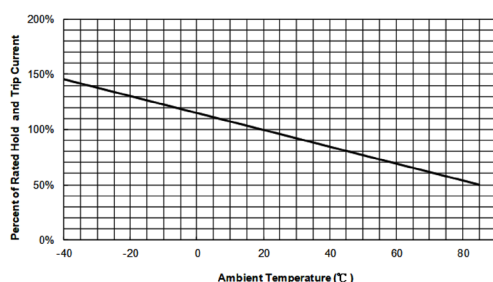
Dimensions



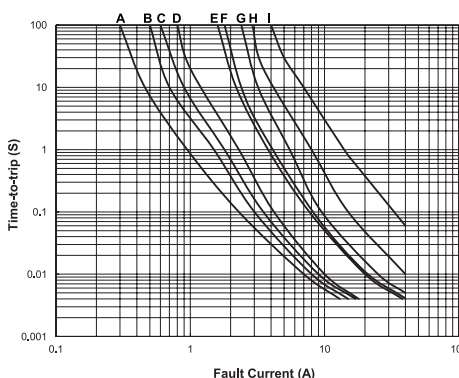
Part Number	A		B		C		D		E	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
MC011429	4.37	4.73	3.07	3.41	0.6	0.9	0.3	0.95	0.25	0.65
MC011430	4.37	4.73	3.07	3.41	0.4	0.7	0.3	0.95	0.25	0.65
MC011431	4.37	4.73	3.07	3.41	0.4	0.7	0.3	0.95	0.25	0.65
MC011432	4.37	4.73	3.07	3.41	0.45	0.75	0.3	0.95	0.25	0.65
MC011433	4.37	4.73	3.07	3.41	0.8	1.3	0.25	0.95	0.25	0.65
MC011434	4.37	4.73	3.07	3.41	0.5	1	0.3	0.95	0.25	0.65
MC011435	4.37	4.73	3.07	3.41	0.55	1.2	0.25	0.95	0.25	0.65
MC011436	4.37	4.73	3.07	3.41	0.6	1.55	0.25	0.95	0.25	0.65
MC011437	4.37	4.73	3.07	3.41	0.8	1.55	0.25	0.95	0.25	0.65

Dimensions : Millimetres

Thermal Derating Curve



Typical Time-To-Trip at 23°C

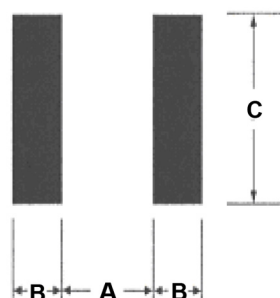


Material Specifications

- 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	B	C
Nominal	Nominal	Nominal
3.45mm	1.78mm	3.5mm

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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 5°C of Actual Peak: Temperature (t _p)	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

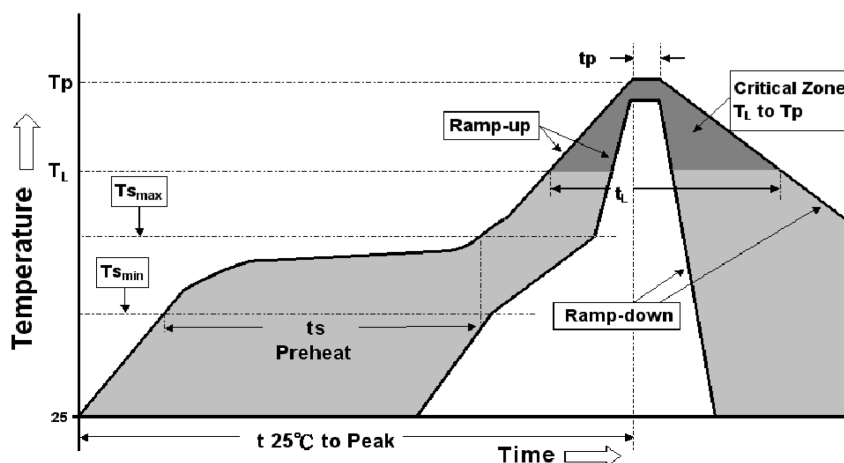
Due to "Lead Free" nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.

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



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Part Number Table

Description	TUV Approval	Part Number
PTC Resettable Fuse, 0.2A, 60V DC, 1812	Yes	MC011429
PTC Resettable Fuse, 0.3A, 30V DC, 1812		MC011430
PTC Resettable Fuse, 0.35A, 30V DC, 1812		MC011431
PTC Resettable Fuse, 0.5A, 30V DC, 1812		MC011432
PTC Resettable Fuse, 1.1A, 33V DC, 1812	No	MC011433
PTC Resettable Fuse, 1.25A, 16V DC, 1812		MC011434
PTC Resettable Fuse, 1.6A, 24V DC, 1812		MC011435
PTC Resettable Fuse, 2A, 16V DC, 1812		MC011436
PTC Resettable Fuse, 3A, 6V DC, 1812		MC011437

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