



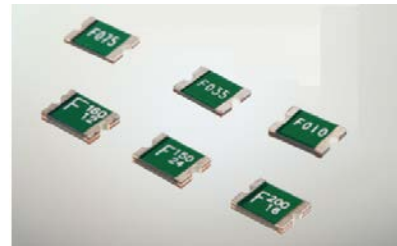
Product Features: Small surface mountable, Solid state, Faster time to trip than standard SMD devices, Lower resistance than standard SMD devices

Operation Current: 0.10A~3.00A

Maximum Voltage: 6V_{DC}~60V_{DC}

Temperature Range : -40°C to 85°C

Applications: All high-density boards



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	Pd, W	Current
			A	Sec	Ohms				Ohms
F1812L010	0.10	0.30	60.0	100	0.8	8.0	0.020	1.600	15.000
F1812L014	0.14	0.30	60.0	100	0.8	8.0	0.008	1.200	6.500
F1812L020	0.20	0.40	30.0	100	0.8	8.0	0.020	0.800	5.000
F1812L020-60	0.20	0.40	60.0	100	0.8	8.0	0.020	0.800	5.000
F1812L030	0.30	0.60	30.0	100	0.8	8.0	0.100	0.200	1.750
F1812L035	0.35	0.70	16.0	100	0.8	8.0	0.100	0.320	1.500
F1812L035-30	0.35	0.70	30.0	100	0.8	8.0	0.100	0.320	1.500
F1812L050	0.50	1.00	16.0	100	0.8	8.0	0.150	0.150	1.000
F1812L050-30	0.50	1.00	30.0	100	0.8	8.0	0.150	0.150	1.000
F1812L075	0.75	1.50	16.0	100	0.8	8.0	0.200	0.110	0.450
F1812L075-24	0.75	1.50	24.0	100	1.0	8.0	0.200	0.110	0.290
F1812L075-33	0.75	1.50	33.0	100	1.0	8.0	0.200	0.110	0.400
F1812L110	1.10	2.20	8.0	100	0.8	8.0	0.300	0.040	0.210
F1812L110-16	1.10	2.20	16.0	100	0.8	8.0	0.500	0.060	0.180
F1812L110-24	1.10	2.20	24.0	100	1.0	8.0	0.500	0.060	0.200
F1812L110-33	1.10	2.20	33.0	100	0.8	8.0	0.500	0.060	0.200
F1812L125-6	1.25	2.50	6.0	100	0.8	8.0	0.400	0.050	0.140
F1812L125-16	1.25	2.50	16.0	100	0.8	8.0	0.400	0.050	0.140
F1812L150	1.50	3.00	8.0	100	0.8	8.0	0.500	0.040	0.110
F1812L150-12	1.50	3.00	12.0	100	1.0	8.0	0.500	0.040	0.110
F1812L150-24	1.50	3.00	24.0	100	1.0	8.0	1.500	0.040	0.120
F1812L160	1.60	3.20	8.0	100	0.8	8.0	0.500	0.030	0.100
F1812L160-12	1.60	3.20	12.0	100	1.0	8.0	1.000	0.030	0.100
F1812L160-16	1.60	3.20	16.0	100	1.0	8.0	1.000	0.030	0.100
F1812L200	2.00	3.50	8.0	100	1.0	8.0	2.000	0.020	0.070
F1812L200-16	2.00	3.50	16.0	100	1.0	8.0	5.000	0.020	0.085
F1812L260TH	2.60	5.00	8.0	100	1.0	8.0	2.500	0.015	0.047
F1812L260-13	2.60	5.00	13.2	100	1.3	8.0	5.000	0.015	0.050
F1812L260-16	2.60	5.00	16.0	100	1.3	8.0	5.000	0.015	0.050
F1812L300	3.00	5.00	6.0	100	1.0	8.0	4.000	0.012	0.040

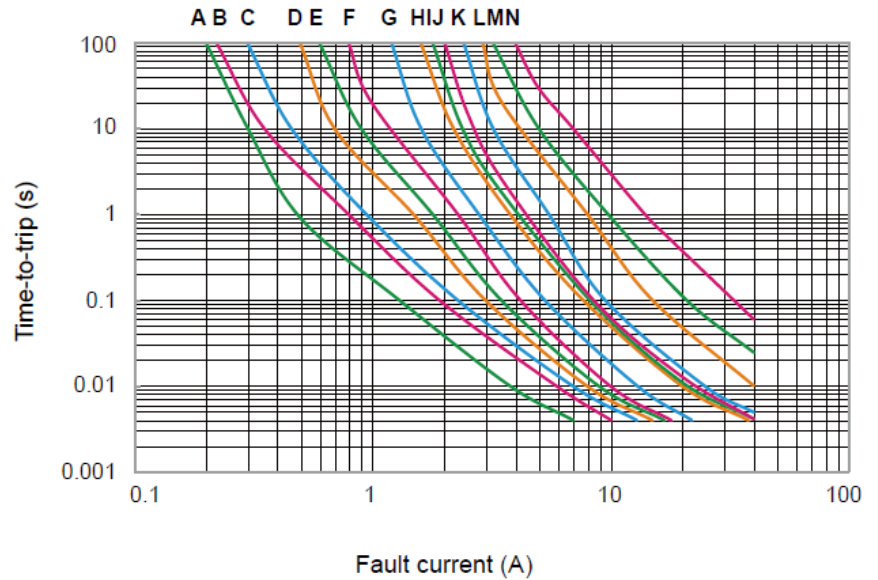
Thermal Derating for PPTC Device at Various Ambient Temperatures

Temperatures	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
Current Derating %	145%	130%	116%	100%	91%	84%	78%	69%	61%	50%



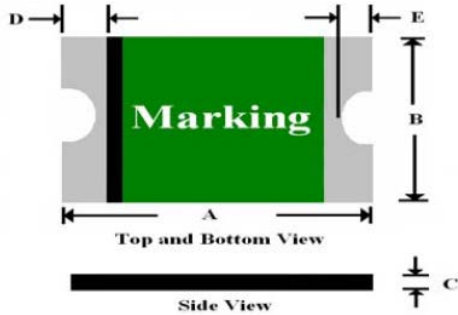
Typical Time-To-Trip at 23°C

- A = F1812L010
- B = F1812L014
- C = F1812L020 / F1812L020-60
- D = F1812L030
- E = F1812L035 / F1812L035-30
- F = F1812L050 / F1812L050-30
- G = F1812L075 / F1812L075-24 /
F1812L075-33
- H = F1812L110 / F1812L110-16 /
F1812L110-24 / F1812L110-33
- I = F1812L125-6 / F1812L125-16
- J = F1812L150 / F1812L150-12 /
F1812L150-24
- K = F1812L160 / F1812L160-12 /
F1812L160-16
- L = F1812L200 / F1812L200-16
- M = F1812L260TH / F1812L260-13 /
F1812L260-16
- N = F1812L300





Product Dimensions (Millimeters)

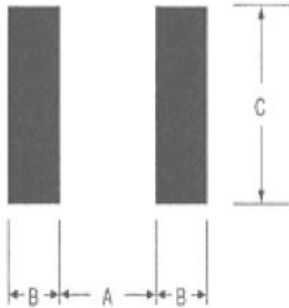


Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
F1812L010	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
F1812L014	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
F1812L020	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
F1812L020-60	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
F1812L030	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
F1812L035	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
F1812L035-30	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
F1812L050	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
F1812L050-30	4.37	4.73	3.07	3.41	0.45	0.75	0.30	0.95	0.25	0.65
F1812L075	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
F1812L075-24	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
F1812L075-33	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
F1812L110	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
F1812L110-16	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
F1812L110-24	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
F1812L110-33	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
F1812L125-6	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
F1812L125-16	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.95	0.25	0.65
F1812L150	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
F1812L150-12	4.37	4.73	3.07	3.41	0.60	1.10	0.25	0.95	0.25	0.65
F1812L150-24	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
F1812L160	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
F1812L160-12	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
F1812L160-16	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
F1812L200	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
F1812L200-16	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
F1812L260TH	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
F1812L260-13	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
F1812L260-16	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
F1812L300	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65



Pad Layouts, Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout for each F1812L device



Pad dimensions (millimeters)			
Device	A Nominal	B Nominal	C Nominal
All F1812L Series	3.45	1.78	3.50

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3°C/second max.
Preheat:	
Temperature Min (T _{smin})	150°C
Temperature Max (T _{smax})	200°C
Time (t _s T _{smin} to T _{smax})	60~180 seconds
Time maintained above:	
Temperature(T _L)	217°C
Time (t _L)	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 temperatures refer to of the package,
measured on the package body surface.

Solder reflow

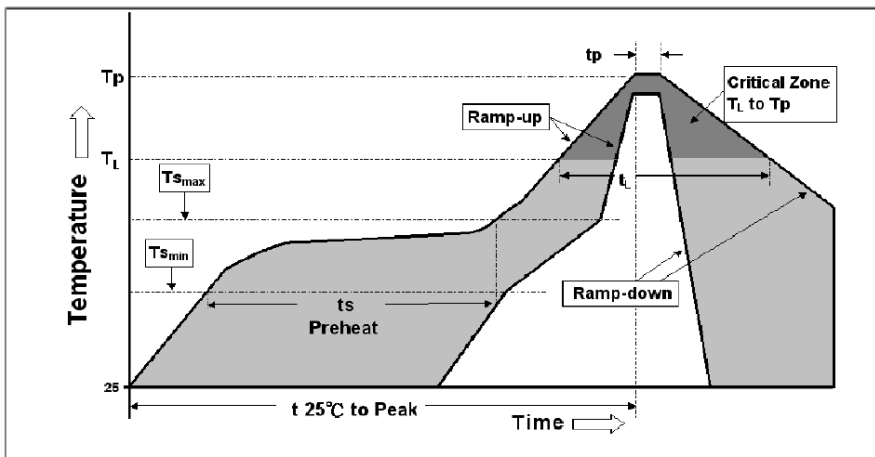
✗ Due to “Lead Free” nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.

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



NOTE: Specification subject to change without notice.