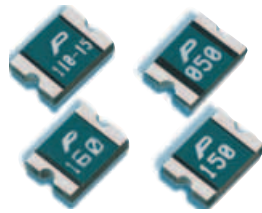
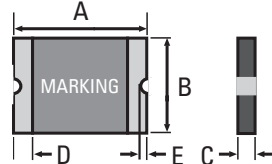


No. SMD1812

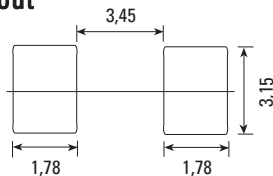


Dimensions (mm)



Pad Size 1812

Pad Layout



Surface Mount, 6V-60V

Standard

UL 1434 1st Edition
CSA C22.2 No.0, CSA TIL No. CA-3A

Approvals

cULus Recognized: File No. E 191571
TÜV: File No. R 50017428

Features

Low voltage overcurrent protection
Reduced PCB space requirements
Low resistance and power dissipation
Optional Lead-free construction
Internationally approved
For high density PCB applications, including PC motherboards, computer peripherals and power supplies

WebLinks

Data Sheet - latest version

www.wickmannusa.com/products/smd1812.pdf

Approval Certificates

www.wickmannusa.com/approvals

Packaging

www.wickmannusa.com/pack

Specifications

Model Option

F: Lead-free Device (contact WICKMANN)

Packaging Code and Info

A: Blister Tape (Qty.: see table below)

Materials

Terminals: Solder-plated copper
Plating: 63/37 SnPb
Sn (Lead-free version)
(contact WICKMANN for Gold-plated copper)

Device Surface Temperature in Tripped State

125°C Max.

Operating / Storage Temperature

-40°C to +85°C (see de-rating table)

Humidity Ageing

+85°C, 85% RH, 1000 hrs., ± 5% typical resistance change

Passive Ageing

+85°C, 1000 hrs., ± 5% typical resistance change

Vibration

MIL-STD-883C, Method 2007.1, Condition A, no change

Thermal Shock

-40°C to +85°C, 20 times, -30% typical resistance change (MIL-STD-202F, Method 107G)

Solvent Resistance

MIL-STD-202, Method 215, no change

Solderability

Reflow: EIA Specification RS186-9E,
ANSI/J-STD-002 Category 3

Marking

"P", Current Code



Dimensions Legend						Packaging Quantity
Rating	A min./max.	B min./max.	C min./max.	D min.	E min./max.	Blister Tape
100mA / 30V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.25	0.30	0.25 / 0.65	1500
140mA / 60V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.95	0.30	0.25 / 0.65	1500
200mA / 30V	4.37 / 4.73	3.07 / 3.41	0.55 / 1.00	0.30	0.25 / 0.65	2000
500mA / 15V	4.37 / 4.73	3.07 / 3.41	0.50 / 0.75	0.30	0.25 / 0.50	2000
750mA / 13.2V	4.37 / 4.73	3.07 / 3.41	0.50 / 0.75	0.30	0.25 / 0.50	2000
750mA / 24V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.55	0.30	0.25 / 0.65	1500
1.10A / 6V	4.37 / 4.73	3.07 / 3.41	0.50 / 0.75	0.30	0.25 / 0.50	2000
1.10A / 16V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.25	0.30	0.25 / 0.65	1500
1.25A / 15V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.25	0.30	0.25 / 0.50	1500
1.50A / 6V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.25	0.30	0.25 / 0.50	1500
1.60A / 8V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.25	0.30	0.25 / 0.65	1500
2.00A / 8V	4.37 / 4.73	3.07 / 3.41	0.75 / 1.55	0.30	0.25 / 0.50	1500
2.60A / 6V	4.37 / 4.73	3.07 / 3.41	0.80 / 1.80	0.30	0.25 / 0.50	1000

Permissible continuous operating current is ≤ 100% at ambient temperature of 20°C (68°F).

Hold Current I_{hold}	Model/ Options ^F Code	Trip Current I_{trip} (A)	Voltage Rating (Vdc)	max. Fault Current I_{max} (A)	max. Power Dissipation P_d (W)	max. Time-to-trip (A) (s)	Resistance R_{min} min. (Ω) R_{1max} max. (Ω)	Approvals cULus TÜV
100mA	P010TS (F)	0.30	30	10	0.8	0.50 1.5	1.600 15.000	• •
140mA	P014TS (F)	0.34	60	10	0.8	1.50 0.15	1.500 6.000	• •
200mA	P020TS (F)	0.40	30	10	0.8	8.00 0.02	0.800 5.000	• •
500mA	P050TS (F)	1.00	15	40	0.8	8.00 0.15	0.150 1.000	• •
750mA	P075TS (F)	1.50	13.2	40	0.8	8.00 0.2	0.100 0.450	• •
750mA	P075TS/24 (F)	1.50	24	40	0.8	8.00 0.2	0.110 0.290	• •
1.10A	P110TS (F)	2.20	6	40	0.8	8.00 0.3	0.040 0.210	• •
1.10A	P110TS/16 (F)	1.95	16	40	0.8	8.00 0.5	0.060 0.180	• •
1.25A	P125TS (F)	2.50	15	40	0.8	8.00 0.4	0.050 0.250	• •
1.50A	P150TS (F)	3.00	6	40	0.8	8.00 0.5	0.040 0.110	• •
1.60A	P160TS/8 (F)	2.80	8	40	0.8	8.00 1.0	0.030 0.100	• •
2.00A	P200TS (F)	3.50	8	40	0.8	8.00 2.0	0.020 0.060	• •
2.60A	P260TS (F)	5.20	6	40	0.8	8.00 2.5	0.015 0.047	•

I_{hold} = Hold current: maximum current device will pass without tripping in 20°C still air.

I_{trip} = Trip current: minimum current at which the device will trip in 20°C still air.

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

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

F = add F to specify Lead-free devices

P_d = Power dissipated from device when in the tripped state at 20°C still air.

R_{min} = Minimum resistance of device in initial (un-soldered) state.

R_{1max} = Maximum resistance of device at 20°C measured one hour after tripping.

Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.

Order Information

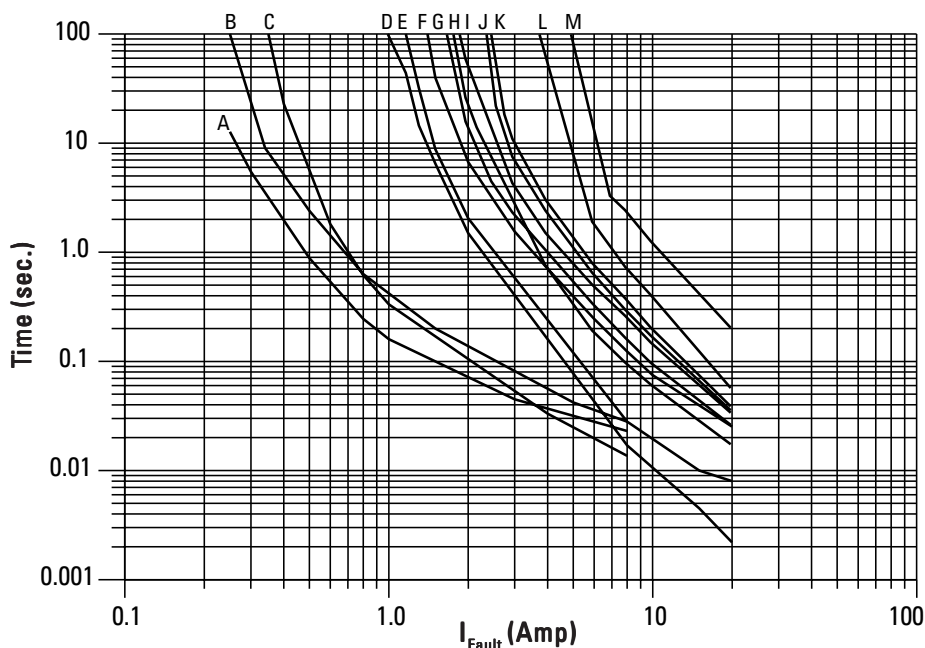
Qty.	Order- Number	Series	Model Code	Pack. Code
		SMD1812		A

Specifications are subject to change without notice.



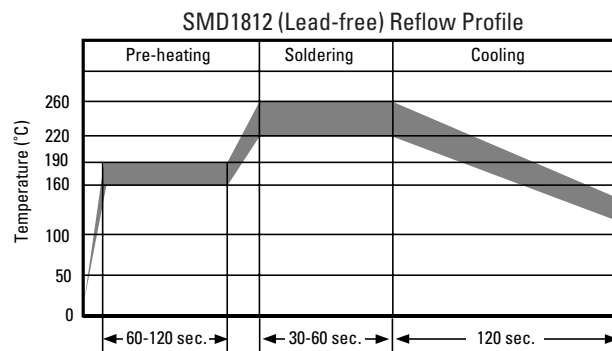
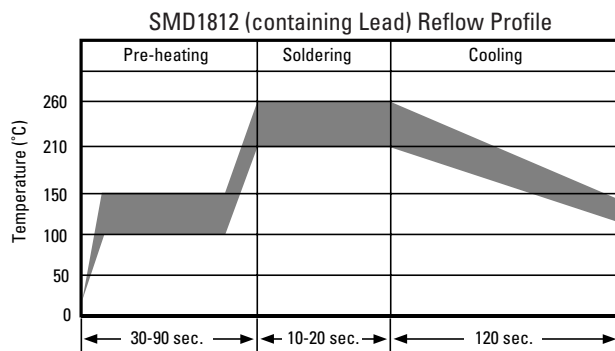
No. SMD1812

Time-to-trip Characteristics



Rating	Curve
100mA / 30V	A
140mA / 60V	B
200mA / 30V	C
500mA / 15V	D
750mA / 13.2V	E
750mA / 24V	F
1.10A / 6V	H
1.10A / 16V	I
1.25A / 15V	G
1.50A / 6V	J
1.60A / 8V	K
2.00A / 8V	L
2.60A / 6V	M

Reflow Soldering Profile



Recommended reflow methods: IR, vapor phase oven, hot air oven, N₂ environment for lead-free

Devices are not designed to be wave soldered to the bottom side of the board.

Recommended maximum paste thickness is 0.25mm (0.010 inch)

Devices can be cleaned using standard industry methods and solvents.

Note: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Thermal Derating Chart

Rating	I _{hold} (Amp) / Ambient Operating Temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
100mA / 30V	0.16	0.14	0.12	0.01	0.08	0.07	0.06	0.05	0.03
140mA / 60V	0.23	0.19	0.17	0.14	0.12	0.10	0.09	0.08	0.06
200mA / 30V	0.29	0.26	0.23	0.20	0.17	0.15	0.14	0.12	0.10
500mA / 15V	0.77	0.68	0.59	0.50	0.44	0.40	0.37	0.33	0.29
750mA / 13.2V	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43
750mA / 24V	1.06	0.95	0.84	0.75	0.60	0.55	0.50	0.45	0.37
1.10A / 6V	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
1.10A / 16V	1.58	1.43	1.27	1.10	0.95	0.85	0.77	0.71	0.58
1.25A / 15V	2.00	1.75	1.52	1.25	1.00	0.95	0.90	0.75	0.53
1.50A / 6V	2.30	2.03	1.76	1.50	1.25	1.10	1.00	0.80	0.60
1.60A / 8V	2.27	2.05	1.83	1.60	1.35	1.25	1.15	1.00	0.85
2.00A / 8V	3.08	2.71	2.35	2.00	1.80	1.60	1.50	1.07	0.80
2.60A / 6V	4.00	3.52	3.06	2.60	2.34	2.08	1.95	1.39	1.04