

Surface-Mount Device

SMD1812-600-12V

RoHS 

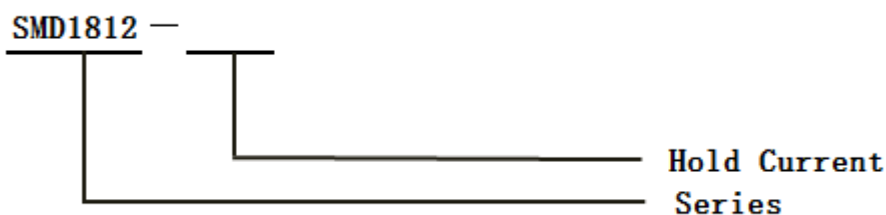
Feature

- Resettable over current and over temperature protection
- Small size of 1812
- Fast time-to-trip
- Small footprint
- RoHS complaint
- Low resistance

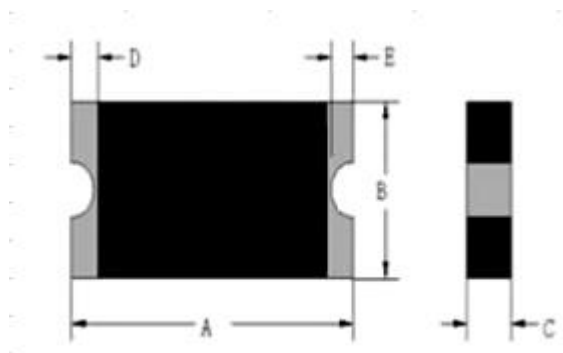
Application

- Computer
- Battery
- Mobile phones
- Industrial controls
- Automotive
- Portable electronics
- Multimedia
- Game machines
- Telephony and broadband

Part Numbering



Product Dimensions in Millimeter



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
SMD1812-600-12V	--	4.80	--	3.50	--	1.3	0.25	--	0.10	--

Electrical Characteristics

Part Number	I(A)		V _{max}	I _{max}	Pd _{typ}	T _{trip}		R _{min}	R _{1max}
	25℃		--	--	--	25℃		25℃	
	Hold	Trip	(V)	(A)	(W)	Current(A)	Time(S)	(Ω)	(Ω)
SMD1812-600-12V	6.0	12.0	12.0	50	2.0	20.0	5.0	0.0008	0.010

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I_H =Hold current: maximum current at which the device will not trip at 25°C still air reflow soldering of 260°C for 20 sec.

I_T =Trip current: minimum current at which the device will always trip at 25°C still air reflow soldering of 260°C for 20 sec.

V_{max} =Maximum continuous voltage device can withstand without damage at rated current

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

T_{trip} =Maximum time to trip(s) at assigned current reflow soldering of 260°C for 20 sec.

Pd_{typ} =Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

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

R_{1max} =Maximum resistance of device at 25°C measured one hour after reflow soldering of 260°C for 20 sec.

Value specified is determined by using the PWB with 0.030" *1.5oz copper traces.

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

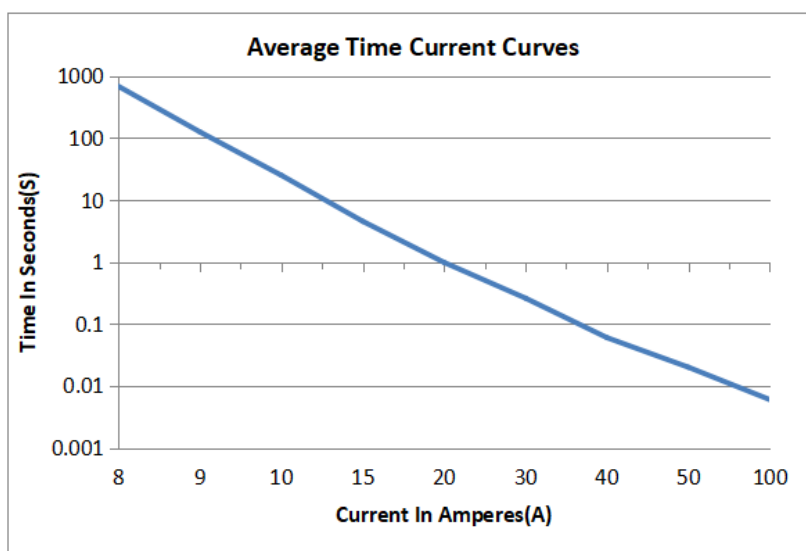
Environmental Specifications

Test	Test Conditions	Accept /Reject Criteria
Recommended storage conditions	40°C max, 70% R.H. max	No change
Passive aging:	85°C, 1000 hours	$\leq R_{1max}$
Moisture Resistance	85% RH, 85°C, 1000hrs	$\leq R_{1max}$
Thermal Shock	MIL-STD-202 Method 107G +85°C /-40°C 20 times	$\leq R_{1max}$
Vibration	MIL-STD-883C, Method 2007.1, Condition A	No change
Solvent Resistance	MIL-STD-202, Method 215	No change
Moisture Level Sensitivity	Level 2, J-STD-020C	No change

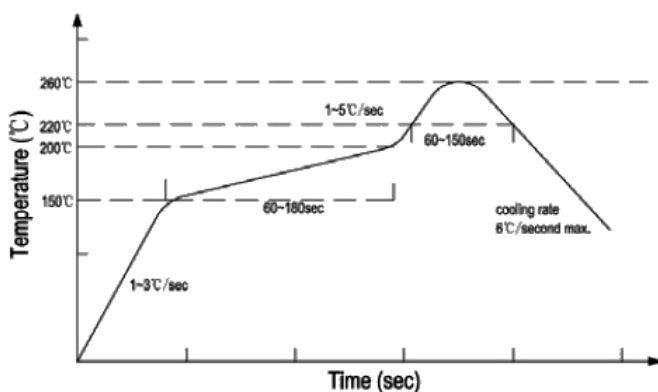
Thermal Derating [Hold Current (A) at Ambient Temperature (°C)]

Part Number		Maximum Ambient Operating Temperature (°C)							
		-40	-20	0	25	40	50	60	70
SMD1812-600-12V	I_{hold}	9.0	8.0	7.0	6.0	5.2	4.6	4.2	3.7
	I_{trip}	18.0	16.0	14.0	12.0	10.4	9.2	8.4	7.4

Average Time-Current Curve



Solder Reflow Recommendation



Reflow -curve

Recommended reflow methods: IR, hot air oven, nitrogen oven
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.

Caution: Operation beyond the rated voltage or current may result in rupture electrical arcing or flame

Packaging Quantity and Marking

Device	Marking	Standard Quantity (pcs)
SMD1812-600-12V	--	1500

NOTE:

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Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame. The devices are intended for protection against occasional over-current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated. Device performance can be



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impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.

Contact information

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