

SMD2018-050

Performance Specification

Model	V_{max} (Vdc)	I_{max} (A)	I_{hold} @25°C (A)	I_{trip} @25°C (A)	P_d Typ. (W)	Maximum Time To Trip		Resistance	
						Current (A)	Time (Sec)	$R_{i_{min}}$ (Ω)	$R_{1_{max}}$ (Ω)
SMD2018-050	60	100	0.55	1.20	1.0	2.5	3.00	0.200	1.000

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

V_{max} = Maximum operating 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}).

P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R_{imin/max} = Minimum/Maximum device resistance prior to tripping at 25°C.

R_{1max} = Maximum device resistance is measured one hour post reflow.

CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

AGENCY APPROVALS :

UL pending

Regulation/Standard:



2002/95/EC

EN14582

I_{hold} Versus Temperature

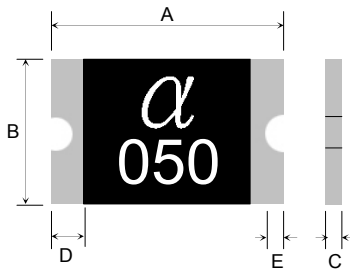
Model	Maximum ambient operating temperature (T_{max}) vs. hold current (I_{hold})								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SMD2018-050	0.87	0.77	0.67	0.55	0.46	0.41	0.36	0.31	0.23

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Construction And Dimension (Unit:mm)

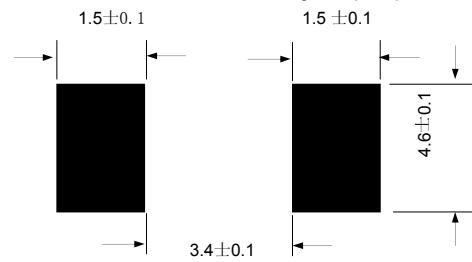
Model	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
SMD2018-050	4.72	5.44	4.22	4.93	0.70	1.30	0.30

Dimensions & Marking



α = Trademark
050 = Hold current

Recommended Pad Layout (mm)



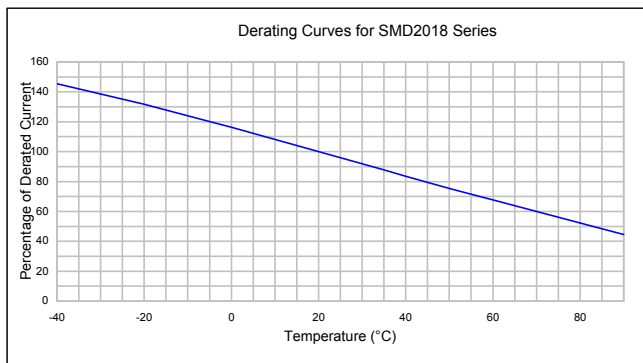
Termination Pad Characteristics

Terminal pad materials : Tin-plated Nickel-Copper
Terminal pad solderability : Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

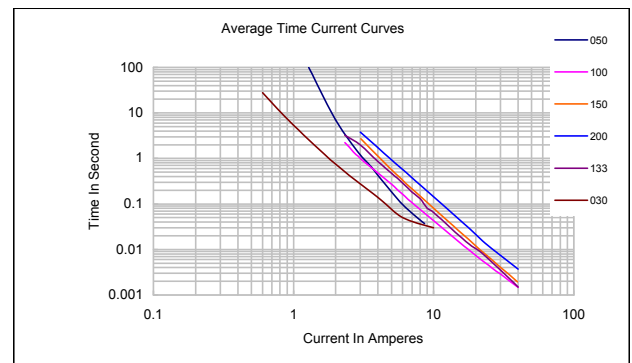
Rework

Use standard industry practices, the removal device must be replaced with a fresh one.

Thermal Derating Curve



Typical Time-To-Trip At 25°C

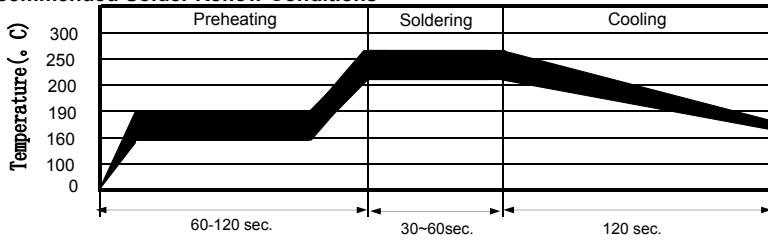


WARNING:

- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC 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 impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Use PPTC with a large inductance in circuit will generate a circuit voltage (L di/dt) above the rated voltage of the PPTC.
- Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. PPTC SMD can be cleaned by standard methods.
- Requests that customers comply with our recommended solder pad layouts and recommended reflow profile. Improper board layouts or reflow profile could negatively impact solderability performance of our devices.

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Recommended Solder Reflow Conditions

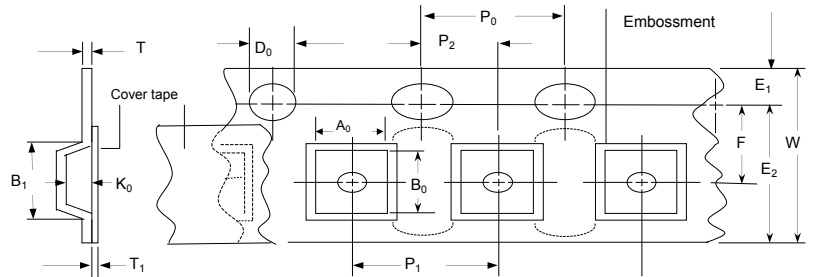


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
 - Devices are not designed to be wave soldered to the bottom side of the board.
 - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
 - Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

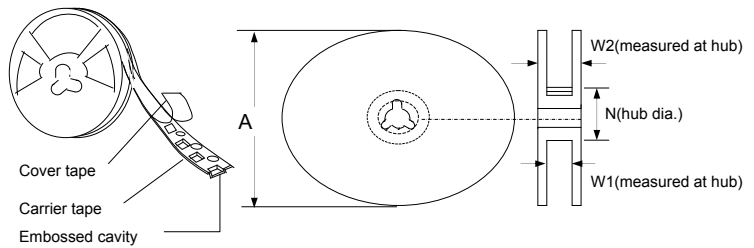
Tape And Reel Specifications (mm)

Governing Specifications	EIA 481-2
W	12.0 ± 0.20
P ₀	4.0 ± 0.10
P ₁	8.0 ± 0.10
P ₂	2.0 ± 0.05
A ₀	4.40 ± 0.10
B ₀	5.50 ± 0.10
B ₁ max.	8.2
D ₀	1.5 + 0.1, -0.0
F	5.5 ± 0.05
E ₁	1.75 ± 0.10
E ₂ min.	10.25
Tmax.	0.6
T ₁ max.	0.1
K ₀	1.36 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	50
W ₁	12.4 + 2.0, -0.0
W ₂ max.	18.4

EIA Tape Component Dimensions



EIA Reel Dimensions



Storage And Handling

- Storage conditions : 40°C max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.

Order Information

Packaging

SMD2018	050	Tape & Reel Quantity
Product name	Hold	1,500 pcs/reel
Size 5045mm/2018 inch	Current	
SMD : surface mount device	0.55A	