

SMD2018-100

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) |
| SMD2018-100 | 15 | 100 | 1.10 | 2.20 | 1.1 | 8.0 | 0.40 | 0.060 | 0.360 |

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.

$R_{1_{max}}$ = 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

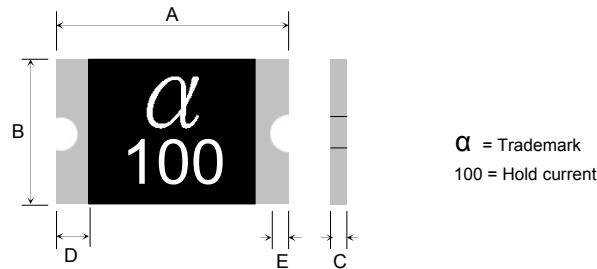
| Model | Maximum ambient operating temperature (T_{max}) vs. hold current (I_{hold}) | | | | | | | | |
|-------------|---|-------|------|------|------|------|------|------|------|
| | -40°C | -20°C | 0°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
| SMD2018-100 | 1.71 | 1.52 | 1.32 | 1.10 | 0.94 | 0.84 | 0.74 | 0.64 | 0.50 |

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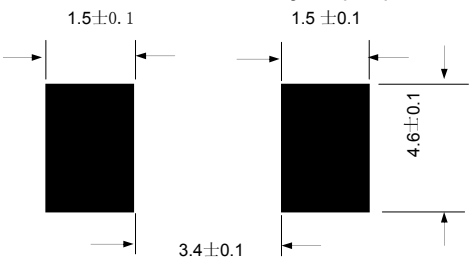
Construction And Dimension (Unit:mm)

| Model | A | | B | | C | | D |
|-------------|------|------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. | |
| SMD2018-100 | 4.72 | 5.44 | 4.22 | 4.93 | 0.45 | 0.80 | 0.30 |

Dimensions & Marking



Recommended Pad Layout (mm)



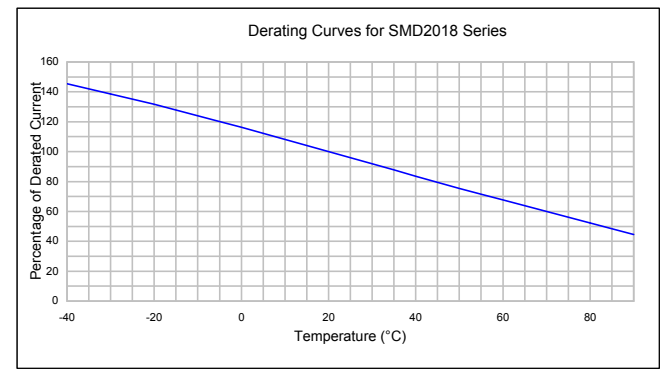
Termination Pad Characteristics

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

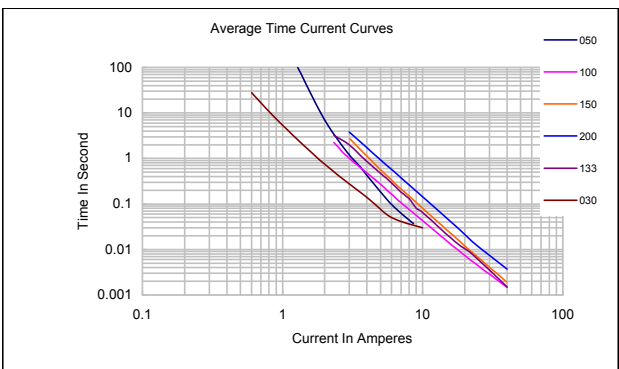
Rework

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

Thermal Derating Curve



Typical Time-To-Trip At 25°C

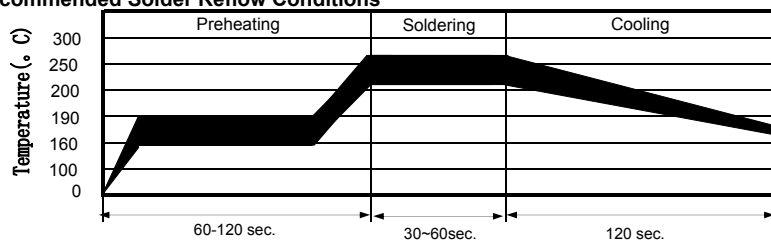


WARNING:

- 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

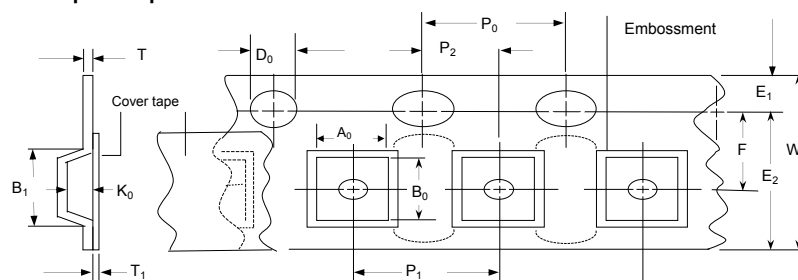


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
 - Devices are not designed to be wave soldered to the bottom side of the board.
 - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
 - Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures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

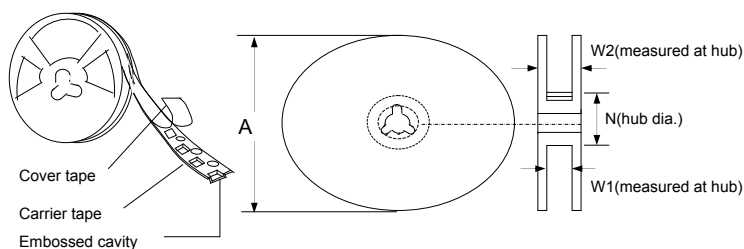
Tape And Reel Specifications (mm)

| 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 | 100 | Tape & Reel Quantity |
|----------------------------|---------|----------------------|
| Product name | Hold | |
| Size 5045mm/2018 inch | Current | |
| SMD : surface mount device | 1.10A | 2,500 pcs/reel |