

Performance Specification

| Model | V _{max} | I _{max} | I _{hold} | I _{trip} | P _d | Maximum Time To Trip | | Resistance | |
|------------------|------------------|------------------|-------------------|-------------------|----------------|----------------------|------------|------------------------|-----------------------|
| | (V dc) | (A) | @25°C (A) | @25°C (A) | Typ. (W) | Current (A) | Time (Sec) | R _{i min} (Ω) | R _{1max} (Ω) |
| SMD2018R030SF | 60 | 100 | 0.30 | 0.60 | 0.9 | 1.5 | 3.00 | 0.500 | 2.300 |
| SMD2018R050SF | 60 | 100 | 0.55 | 1.20 | 1.0 | 2.5 | 3.00 | 0.200 | 1.000 |
| SMD2018R100SF | 15 | 100 | 1.10 | 2.20 | 1.1 | 8.0 | 0.40 | 0.060 | 0.360 |
| SMD2018R100SF33V | 33 | 100 | 1.10 | 2.20 | 1.1 | 8.0 | 0.40 | 0.060 | 0.360 |
| SMD2018R150SF | 15 | 100 | 1.50 | 3.00 | 1.1 | 8.0 | 0.80 | 0.050 | 0.170 |
| SMD2018R200SF | 10 | 100 | 2.00 | 4.00 | 1.1 | 8.0 | 2.40 | 0.030 | 0.100 |

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}).
 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.
 P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.
 R_{i min}/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 Approval and Environmental Compliance

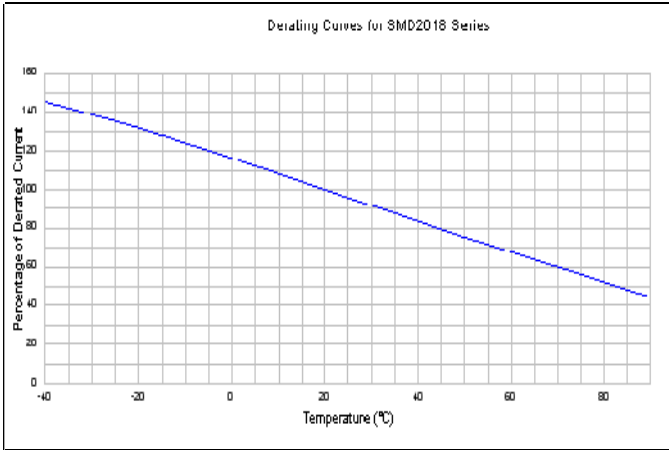
| Agency | File Number | Regulation | Standard |
|--------|-------------|------------|------------|
| UL | pending | | 2002/95/EC |
| TUV | pending | | EN14582 |

Thermal Derating Chart

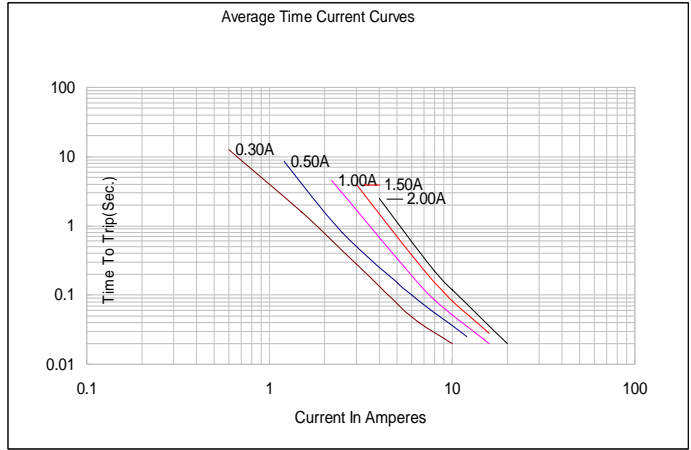
Recommended Hold Current(A) at Ambient Temperature(°C)

| Model | Ambient Operation Temperature | | | | | | | | |
|---------------|-------------------------------|-------|------|------|------|------|------|------|------|
| | -40°C | -20°C | 0°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
| SMD2018R030SF | 0.48 | 0.42 | 0.35 | 0.30 | 0.24 | 0.21 | 0.17 | 0.15 | 0.10 |
| SMD2018R050SF | 0.87 | 0.77 | 0.67 | 0.55 | 0.46 | 0.41 | 0.36 | 0.31 | 0.23 |
| SMD2018R100SF | 1.71 | 1.52 | 1.32 | 1.10 | 0.94 | 0.84 | 0.74 | 0.64 | 0.50 |
| SMD2018R150SF | 2.38 | 2.10 | 1.82 | 1.50 | 1.27 | 1.13 | 0.99 | 0.85 | 0.64 |
| SMD2018R200SF | 2.95 | 2.65 | 2.35 | 2.00 | 1.74 | 1.59 | 1.44 | 1.29 | 1.06 |

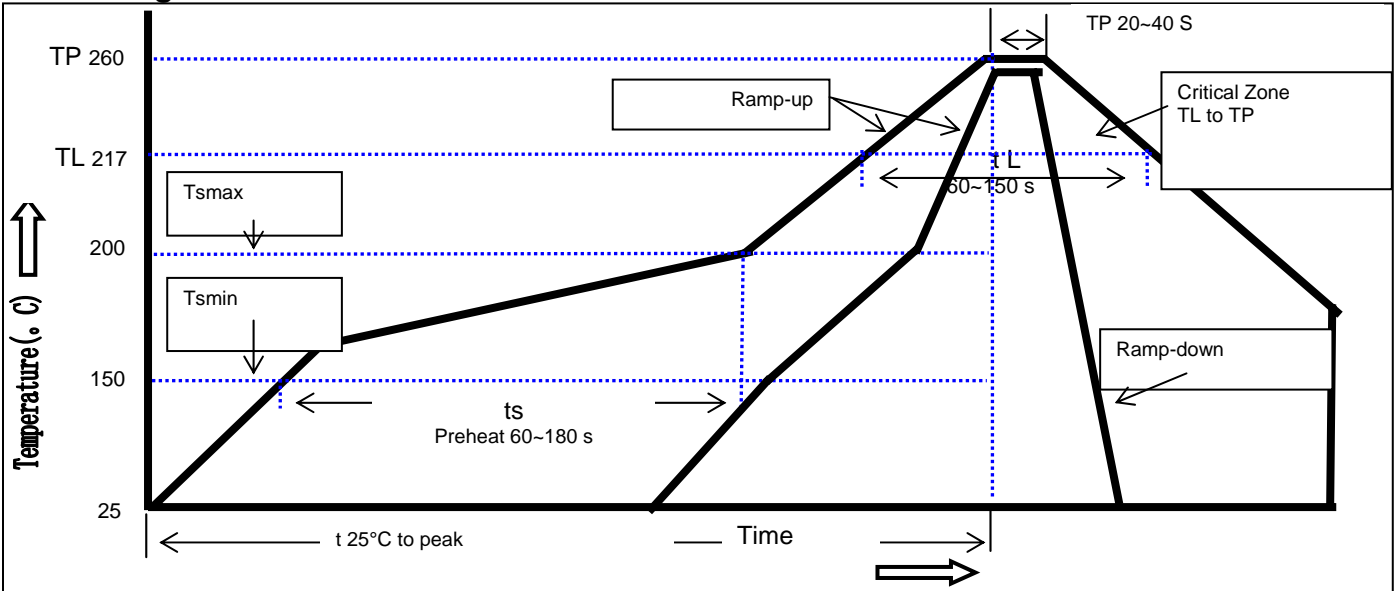
Thermal Derating Curve



Average Time-Current Curve



Soldering Parameters



| Profile Feature | Pb-Free Assembly |
|-------------------------------------|--------------------|
| Average Ramp-Up Rate(Ts max to T p) | 3°C/second max. |
| Preheat | |
| -Temperature Min(Ts min) | 150°C |
| -Temperature Max(Ts max) | 200°C |
| -Time(Ts min to Ts max) | 60~180 seconds |
| Time maintained above: | |
| -Temperature(TL) | 217°C |
| -Time(tL) | 60~150 seconds |
| Peak Temperature(Tp) | 260°C |
| Ramp-Down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max |
| Storage Condition | 0°C~35°C,30%-60%RH |

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

Recommended maximum paste thickness is 0.25mm

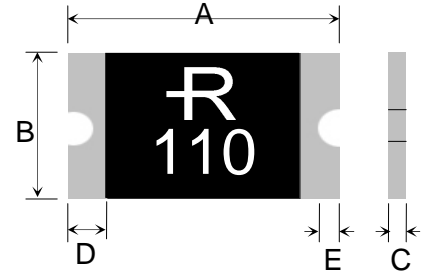
Devices can be cleaned using standard industry methods and solvents.

Note 1:All temperature refer to topside of the package, measured on the package body surface.

Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Physical Dimensions(mm.)

| Model | A | | B | | C | | D | E |
|------------------|------|------|------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Min. |
| SMD2018R030SF | 4.72 | 5.44 | 4.22 | 4.93 | 0.50 | 1.20 | 0.30 | 0.25 |
| SMD2018R050SF | 4.72 | 5.44 | 4.22 | 4.93 | 0.50 | 1.20 | 0.30 | 0.25 |
| SMD2018R100SF | 4.72 | 5.44 | 4.22 | 4.93 | 0.50 | 1.20 | 0.30 | 0.25 |
| SMD2018R100SF33V | 4.72 | 5.44 | 4.22 | 4.93 | 0.50 | 1.20 | 0.30 | 0.25 |
| SMD2018R150SF | 4.72 | 5.44 | 4.22 | 4.93 | 0.50 | 1.20 | 0.30 | 0.25 |
| SMD2018R200SF | 4.72 | 5.44 | 4.22 | 4.93 | 0.50 | 1.20 | 0.30 | 0.25 |

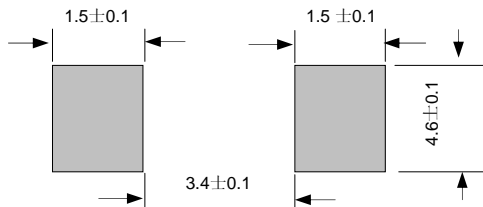


Termination Pad Characteristics

Terminal pad materials: Tin-plated Nickel-Copper

Terminal pad solder ability: Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

Recommended Pad Layout (mm.)



Packaging Quantity

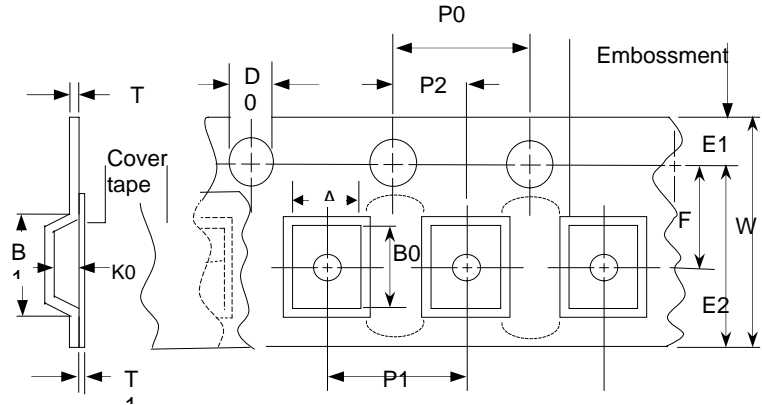
| Part Number | Quantity |
|-------------------|---------------|
| SMD2018R030.050SF | 1500 pcs/reel |
| The others | 2500 pcs/reel |

Tape & reel packaging per EIA481-1

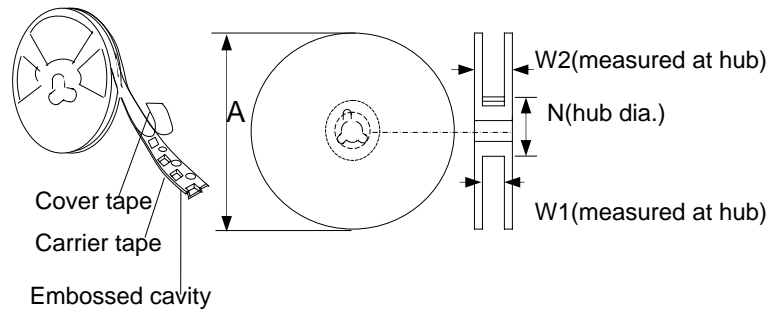
Tape And Reel Specifications (mm)

| Governing Specifications | EIA 481-1 |
|---|----------------|
| W | 12.0 ± 0.2 |
| P0 | 4.0 ± 0.10 |
| P1 | 8.0 ± 0.10 |
| P2 | 2.0 ± 0.05 |
| A0 | 4.40 ± 0.10 |
| B0 | 5.50 ± 0.10 |
| B1max. | 8.20 |
| D0 | 1.50 + 0.1, -0 |
| F | 5.5 ± 0.05 |
| E1 | 1.75 ± 0.10 |
| E2min. | 10.25 |
| T | 0.6 |
| T1max. | 0.1 |
| K0 | 1.36 ± 0.1 |
| Leader min. | 390 |
| Trailer min. | 160 |
| Reel Dimensions | |
| A max. | 178 |
| N min. | 50 |
| W1 | 12.4 ± 0.5 |
| W2 | 18.4 ± 0.5 |
| Storage And Handling | |
| · Storage conditions: 35°C max, 30%~60% R.H. | |
| · Devices may not meet specified performance if storage conditions are exceeded. | |

EIA Tape Component Dimensions

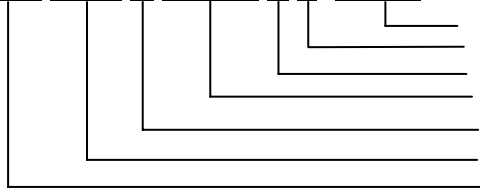


EIA Reel Dimensions



Part Number System

SMD 2018 R □□□ S F □□V



- Special voltage Rating(Optional)
- Lead-Free
- Tin-plated Nickel-Copper
- Holding Current Rating
- LOGO
- Device Dimensions: Length/width(Unit:1/100 inch) Size 5045 mm / 2018 inch
- Surface Mount Device