**Features**

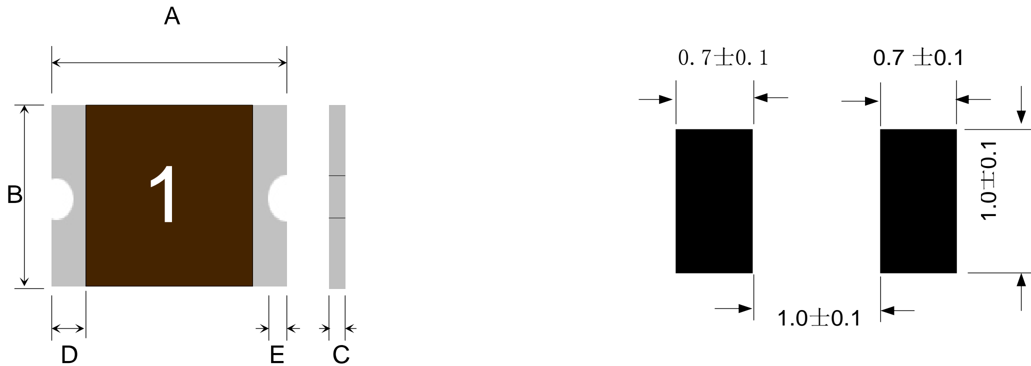
- Surface Mount Devices
- Lead free device
- Size 1.5*0.8 mm / 0.06*0.03 inch
- Surface Mount packaging for automated assembly

**Applications**

Almost anywhere there is a low voltage power supply, up to 15V and a load to be protected, including:

- Computer mother board, Modem. USB hub
- PDAs & Charger, Analog & digital line card
- Digital cameras, Disk drivers, CD-ROMs,

## Dimensions(mm)




## Product dimensions (mm)

| Model | A | | B | | C | | D | E |
|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Min. |
| DSM010 | 1.45 | 1.85 | 0.65 | 1.05 | 0.40 | 1.00 | 0.15 | 0.10 |
| DSM020 | 1.45 | 1.85 | 0.65 | 1.05 | 0.40 | 1.00 | 0.15 | 0.10 |
| DSM025 | 1.45 | 1.85 | 0.65 | 1.05 | 0.40 | 1.00 | 0.15 | 0.10 |
| DSM035 | 1.45 | 1.85 | 0.65 | 1.05 | 0.40 | 1.00 | 0.15 | 0.10 |
| DSM050 | 1.45 | 1.85 | 0.65 | 1.05 | 0.50 | 1.10 | 0.15 | 0.10 |
| DSM075 | 1.45 | 1.85 | 0.65 | 1.05 | 0.50 | 1.10 | 0.15 | 0.10 |
| DSM100 | 1.45 | 1.85 | 0.65 | 1.05 | 0.50 | 1.10 | 0.15 | 0.10 |

## 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 | | |

## Termination pad characteristics

| | |
|---|---|
| Terminal pad materials | Tin-Plated Nickle-Copper or Gold-Plated Nickle-Copper |
| Terminal pad solderability | Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3. |

## Electrical characteristics(25℃)

| Model | Marking | $V_{max}$ (Vdc) | $I_{max}$ (A) | $I_{hold}$ @25°C (A) | $I_{trip}$ @25°C (A) | $P_d$ Typ. (W) | Maximum Time To Trip Current (A) | Maximum Time To Trip Time (Sec) | Resistance $Ri_{min}$ (Ω) | Resistance R1max (Ω) |
|---|---|---|---|---|---|---|---|---|---|---|
| DSM010 | 1 | 15.0 | 40 | 0.10 | 0.30 | 0.5 | 0.5 | 1.00 | 0.900 | 6.000 |
| DSM020 | 2 | 9.0 | 40 | 0.20 | 0.50 | 0.5 | 1.0 | 0.60 | 0.550 | 3.500 |
| DSM025 | 2 | 9.0 | 40 | 0.25 | 0.55 | 0.5 | 8.0 | 0.08 | 0.500 | 3.000 |
| DSM035 | 3 | 6.0 | 40 | 0.35 | 0.75 | 0.5 | 8.0 | 0.10 | 0.200 | 1.400 |
| DSM050 | 5 | 6.0 | 40 | 0.50 | 1.00 | 0.5 | 8.0 | 0.10 | 0.100 | 0.800 |
| DSM075 | 7 | 6.0 | 40 | 0.75 | 1.40 | 0.5 | 8.0 | 0.10 | 0.060 | 0.450 |
| DSM100 | 0 | 6.0 | 40 | 1.00 | 2.00 | 0.5 | 8.0 | 0.10 | 0.040 | 0.300 |

**Ihold** = Hold Current. Maximum current device will not trip in 25°C still air.

**Itrip** = Trip Current. Minimum current at which the device will always trip in 25°C still air.

**Vmax** = Maximum operating voltage device can withstand without damage at rated current (Imax).

**Imax** = Maximum fault current device can withstand without damage at rated voltage (Vmax).

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

**Rimin/max** = Minimum/Maximum device resistance prior to tripping at 25°C.

**$R1_{max}$** = Maximum device resistance is measured one hour post reflow.

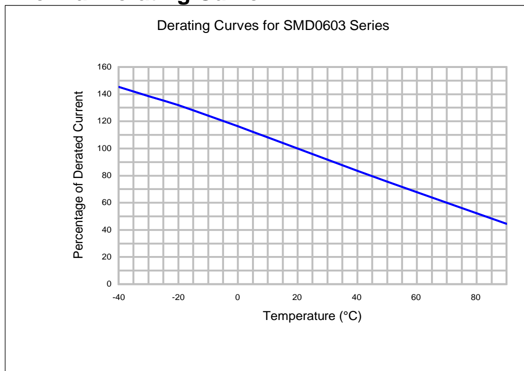
**CAUTION :** Operation beyond the specified ratings may result in damage and possible arcing and flame.

## Ihold verus tempetature

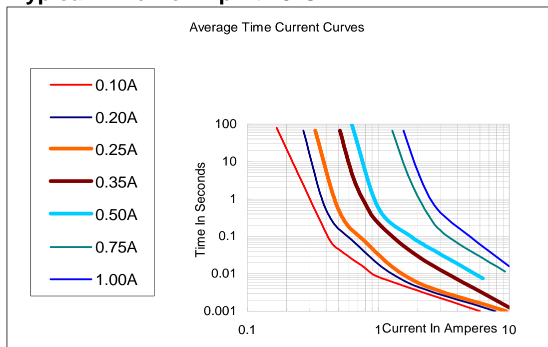
Maximum ambient operating temperature ($T_{mao}$) vs. hold current ($I_{hold}$)

| Model | -40°C | -20°C | 0°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
|---|---|---|---|---|---|---|---|---|---|
| DSM010 | 0.13 | 0.12 | 0.11 | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 | 0.03 |
| DSM020 | 0.27 | 0.25 | 0.23 | 0.20 | 0.17 | 0.14 | 0.12 | 0.10 | 0.07 |
| DSM025 | 0.32 | 0.29 | 0.27 | 0.25 | 0.21 | 0.18 | 0.16 | 0.05 | 0.03 |
| DSM035 | 0.47 | 0.41 | 0.38 | 0.35 | 0.29 | 0.26 | 0.24 | 0.20 | 0.14 |
| DSM050 | 0.67 | 0.59 | 0.54 | 0.50 | 0.41 | 0.37 | 0.34 | 0.29 | 0.20 |
| DSM075 | 0.98 | 0.85 | 0.81 | 0.75 | 0.60 | 0.54 | 0.44 | 0.40 | 0.31 |
| DSM100 | 1.30 | 1.12 | 1.08 | 1.00 | 0.80 | 0.72 | 0.58 | 0.53 | 0.42 |

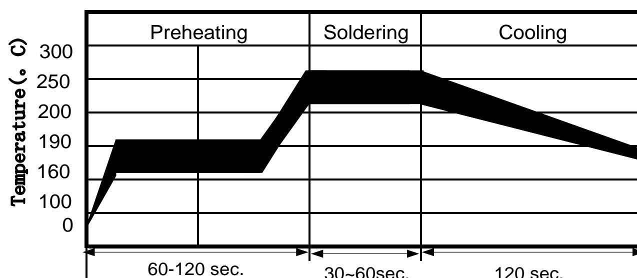
**Thermal Derating Curve**




**Typical Time-To-Trip At 25°C**




**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.

## Packaging Information

**Reel:**

| DSM010-100 | 5,000 pcs/reel |
|---|---|