

Type SM Series

Key Features

- Low Profile Design
- Available on Tape
- Very Wide Value Range
- Ideal for Power Circuitry
- Available in 2,3 or 5 Watts



TE Connectivity (TE) introduces a surface mount power resistor suited to meet today's circuit design needs. Each size offers low profile case design with flexible tinned copper terminations for reliable solder joints. All styles utilize a fully welded construction technique, unlike other designs that rely solely on tinned termination connections. These features allow the SM Series to withstand the higher temperatures associated with reflow, vapour phase, or infrared (IR) manufacturing processes without degradation.

Characteristics - Electrical

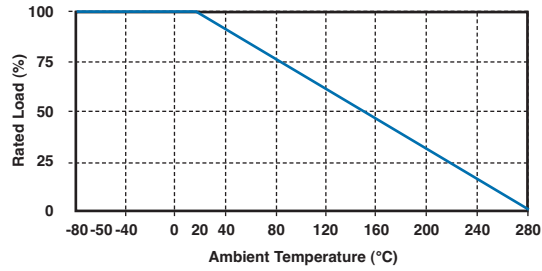
| | SM (Wire) | SM (Metal Film) |
|-----------------------------|-----------------|-----------------|
| Values SM_2: | R10 – 200R | 201R – 2M |
| Values SM_3: | R10 – 300R | 301R – 2M |
| Values SM_5: | R10 - 500R | 501R - 2M |
| Value Grid: | E24 | |
| Resistance Tolerance: | 1% or 5% | |
| Power Rating @ 25°C SM_2: | 2.0 Watts | |
| Power Rating @ 25°C SM_3: | 3.0 Watts | |
| Power Rating @ 25°C SM_5: | 5.0 Watts | |
| Derating: | See Curve Below | |
| Max Operating Voltage SM_2: | 300 Volts | |
| Max Operating Voltage SM_3: | 500 Volts | |
| Max Operating Voltage SM_5: | 500 Volts | |

Characteristics - Environmental

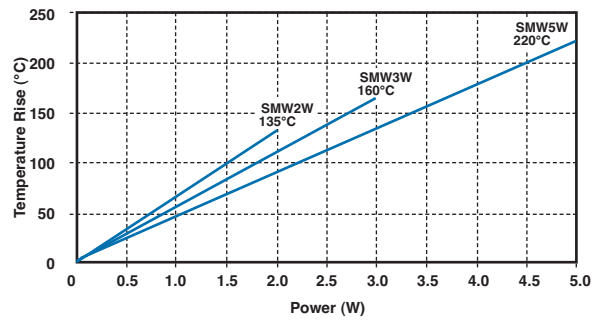
| Test | Condition | SM (Wire) | SM (Metal Film) |
|--|-------------------------------------|--------------|-----------------|
| Temperature Coefficient of Resistance: | -55°C ~ +200°C | ± 200ppm /°C | ± 100ppm /°C |
| Short Time Overload: | 5 times of rated wattage for 5 sec. | ± 1% | ± 0.5% |
| Rated Load: | Rated voltage for 30 minutes | ± 1% | ± 0.5% |
| Insulation Resistance: | 500V megger. | 10,000 MΩ | 10,000 MΩ |
| Load Life: | 70°C on-off cycle 1,000hrs. | ± 2% | ± 1% |
| Humidity Load Life: | 40°C - 95% RH on-off cycle 500hrs. | ± 2% | ± 1% |

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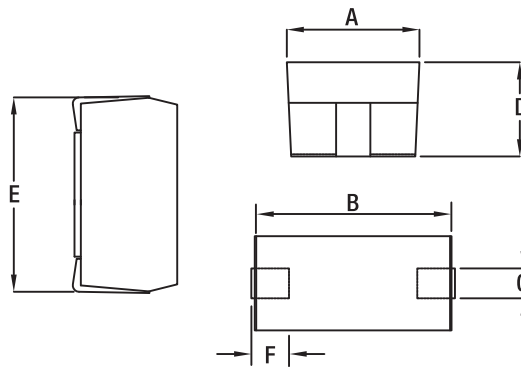
Power Derating



Maximum Allowable Body Temperature



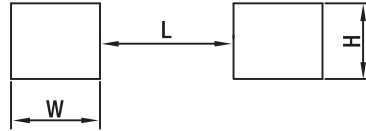
Dimensions



| | A ±0.3 | B ±0.3 | C ±0.3 | D ±0.3 | E max | F±0.3 | Qty Per Reel |
|------|--------|--------|--------|--------|-------|-------|--------------|
| SM_2 | 4.0 | 6.7 | 1.4 | 3.55 | 7.9 | 1.5 | 2000 |
| SM_3 | 5.5 | 10.5 | 1.7 | 5.0 | 12.0 | 2.3 | 1000 |
| SM_5 | 7.3 | 13.5 | 1.7 | 6.8 | 17.0 | 2.5 | 1000 |

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Recommended Pad Dimensions



| | W Nom. | H Nom. | L Nom. |
|------|--------|--------|--------|
| SM_2 | 2.6 | 2.9 | 2.8 |
| SM_3 | 4.0 | 3.4 | 6.0 |
| SM_5 | 4.5 | 3.4 | 11.0 |

How to Order

| SMW | 2 | 1R0 | F | T |
|-------------------------------------|---|--|--------------------------------|------------|
| Common Part | Case Size | Resistance Value | Tolerance | Pack Style |
| SMW – Wirewound SMF – Metal Film | 2 – 2 Watts 3 – 3 Watts 5 – 5 Watts | 0.1 ohm (100 milli ohms) R10 1 ohm (1000 milli ohms) 1R0 100 ohm (100 ohms) 100R 1K ohm (1000 ohms) 1K0 100K ohm (100,000 ohms) 100K | J – $\pm 5\%$ F – $\pm 1\%$ | T – Taped |

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