



## DESCRIPTION

The SM220A~SM2200A are available in SMA package.

## ORDERING INFORMATION

| Package Type                             | Part Number   |
|--|---------------|
| SMA                                      | SM220A        |
|  | SM240A        |
|  | SM260A        |
|  | SM280A        |
|  | SM2100A       |
|  | SM2120A       |
|  | SM2150A       |
|  | SM2200A       |
| Note                                     | 5,000pcs/Reel |
| AiT provides all RoHS Compliant Products |               |

## FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Available in SMA package

## MECHANICAL DATA

Case: SMA

Terminals: Solderable per MIL-STD-750,  
Method 2026

Approx. Weight: 60mg / 0.0021oz

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter   | Symbol          | SM 220A           | SM 240A | SM 260A | SM 280A | SM 2100A | SM 2120A | SM 2150A | SM 2200A | Unit |
|---|-----------------|-------------------|---------|---------|---------|----------|----------|----------|----------|------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 20                | 40      | 60      | 80      | 100      | 120      | 150      | 200      | V    |
| Maximum RMS Voltage   | $V_{RMS}$       | 14                | 28      | 42      | 56      | 70       | 84       | 105      | 140      | V    |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 20                | 40      | 60      | 80      | 100      | 120      | 150      | 200      | V    |
| Maximum Average Forward Rectified Current   | $I_{F(AV)}$     | 2.0               |         |         |         |          |          |          |          | A    |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$       | 50                |         |         |         | 40       |          |          |          | A    |
| Max Instantaneous Forward Voltage at 2A   | $V_F$           | 0.55              | 0.70    |         | 0.85    |          | 0.95     |          | V        |      |
| Maximum DC Reverse Current at Rated DC Reverse Voltage  | $I_R$           | $T_A=25^\circ C$  | 0.5     |         |         | 0.3      |          |          | mA       |      |
|   |                 | $T_A=100^\circ C$ | 5       |         |         | 3        |          |          |          |      |
| Typical Junction Capacitance <sup>NOTE1</sup>   | $C_J$           | 220               | 80      |         |         |          |          |          |          | pF   |
| Typical thermal Resistance <sup>NOTE2</sup>   | $R_{\theta JA}$ | 80                |         |         |         |          |          |          |          | °C/W |
| Operating Junction Temperature Range  | $T_J$           | -55 to +125       |         |         |         |          |          |          |          | °C   |
| Storage Temperature Range   | $T_{stg}$       | -55 to +150       |         |         |         |          |          |          |          | °C   |

NOTE1: Measured at 1MHz and applied reverse voltage of 4 V D.C.

NOTE2: P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



## TYPICAL PERFORMANCE CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

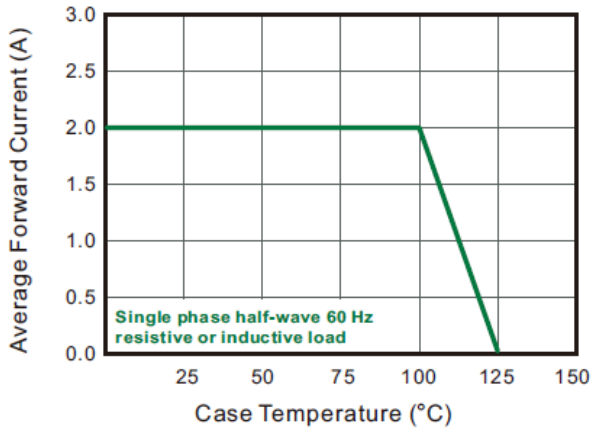


Figure. 2 Typical Reverse Characteristics

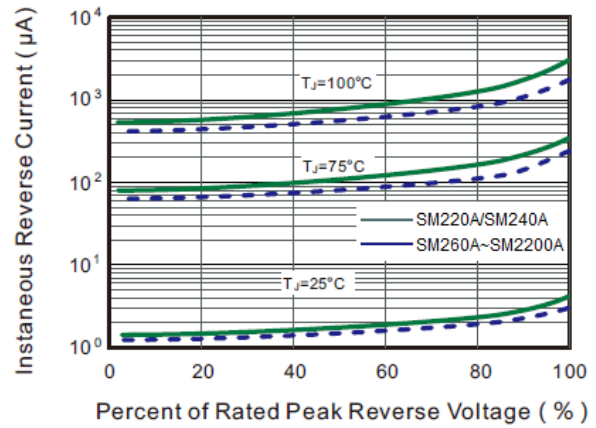


Figure. 3 Typical Forward Characteristic

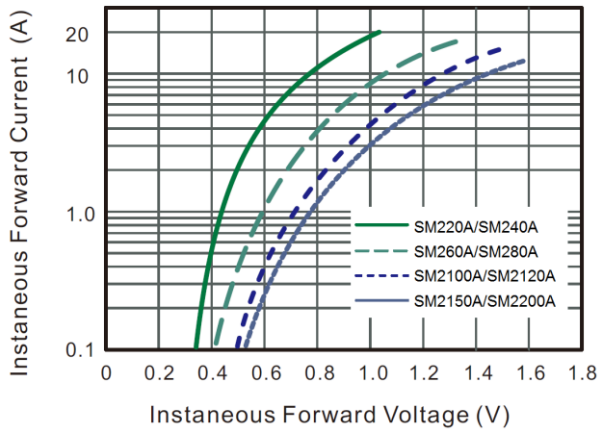


Figure. 4 Typical Junction Capacitance

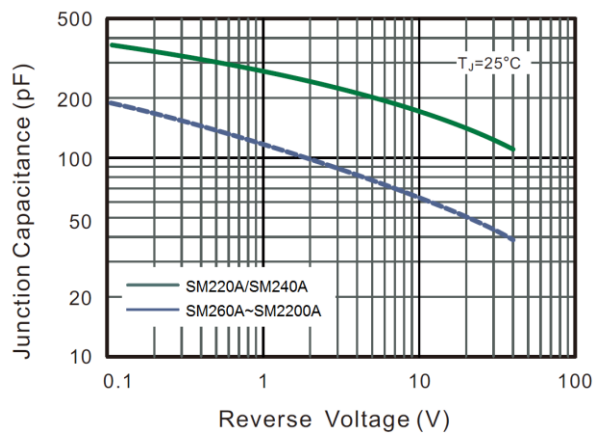


Figure. 5 Maximum Non-Repetitive Peak Forward Surge Current

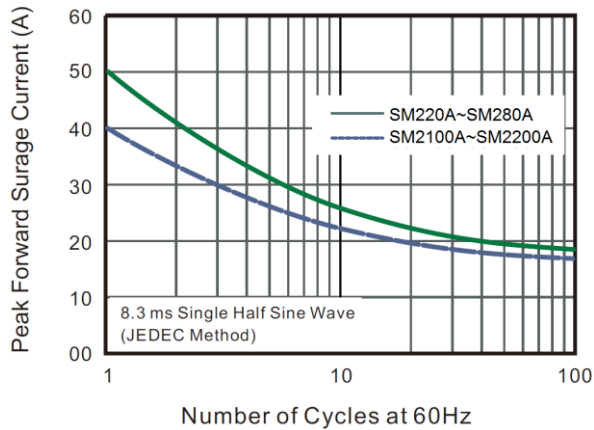
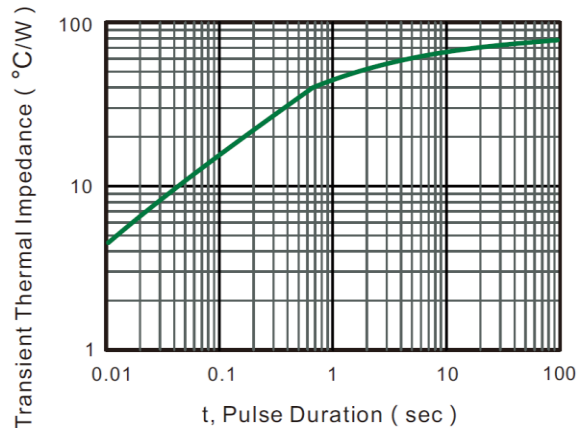


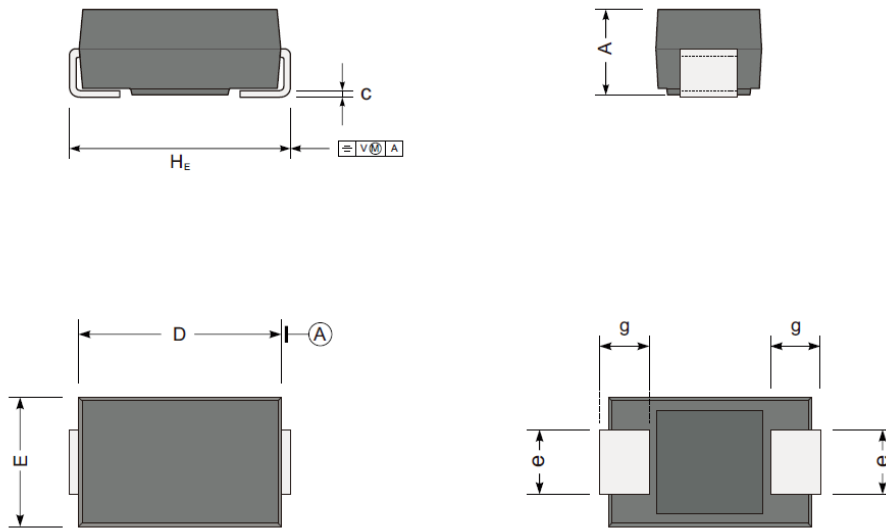
Figure. 6 Typical Transient Thermal Impedance



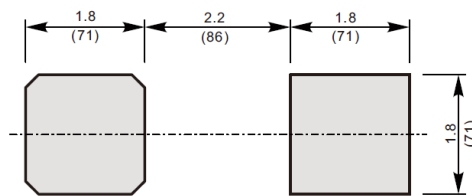


**PACKAGE INFORMATION**

Dimension in SMA Package (Unit: mm)



The recommended mounting pad size



Unit :  $\frac{\text{mm}}{\text{(mil)}}$

| UNIT |     | A   | D    | E   | H <sub>E</sub> | c    | e   | g   |
|------|-----|-----|------|-----|----------------|------|-----|-----|
| mm   | max | 2.2 | 4.83 | 2.9 | 5.4            | 0.31 | 1.7 | 1.5 |
|      | min | 1.9 | 4.32 | 2.3 | 4.7            | 0.12 | 1.2 | 0.9 |
| mil  | max | 87  | 190  | 114 | 213            | 12   | 67  | 59  |
|      | min | 75  | 170  | 91  | 185            | 5    | 47  | 35  |



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