

S3AB-AT thru S3MB-AT

SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIERS

Forward Current: 3 A

Reverse Voltage: 50 to 1000 V

FEATURES

- ◆ For Surface Mounted Applications
- ◆ Low Profile Package
- ◆ Glass Passivated Chip Junction
- ◆ Easy to Pick and Place
- ◆ Lead Free in Comply with EU RoHS 2011/65/EU

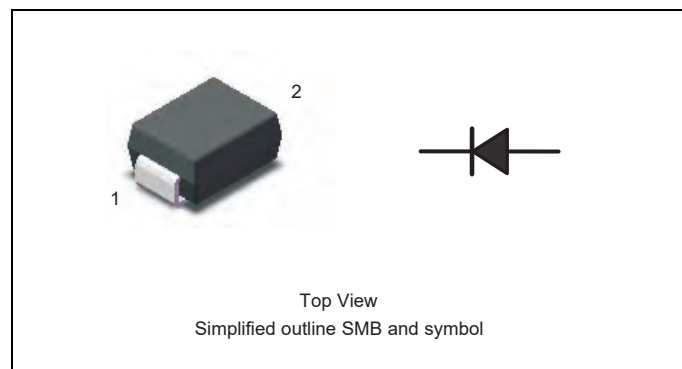
Directives

MECHANICAL DATA

- ◆ Case: SMB
- ◆ Terminals: Solderable Per MIL-STD-750, Method 2026
- ◆ Weight: Approx. 0.055g

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derating by 20 %.

| PARAMETER | SYMBOL | S3AB -AT | S3BB -AT | S3DB -AT | S3GB -AT | S3JB -AT | S3KB -AT | S3MB -AT | UNITS |
|--|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 3 | | | | | | | A |
| Peak Forward Surge Current ^{Note 1} | I_{FSM} | 90 | | | | | | | A |
| Max Instantaneous Forward Voltage at 3 A | V_F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_A = 125^\circ\text{C}$ | I_R | 5 100 | | | | | | | μA |
| Typical Junction Capacitance ^{Note 2} | C_J | 35 | | | | | | | pF |
| Typical Thermal Resistance ^{Note 3} | $R_{\theta JA}$ | 48 | | | | | | | $^\circ\text{C/W}$ |
| | $R_{\theta JC}$ | 16 | | | | | | | |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 ~ +150 | | | | | | | $^\circ\text{C}$ |

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).

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

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

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Rev: 1.0

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RATINGS AND CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

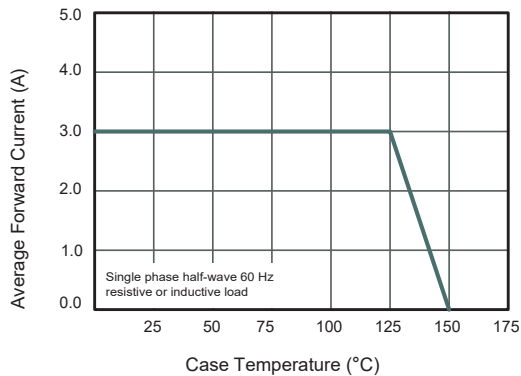


Fig.2 Typical Instaneous Reverse Characteristics

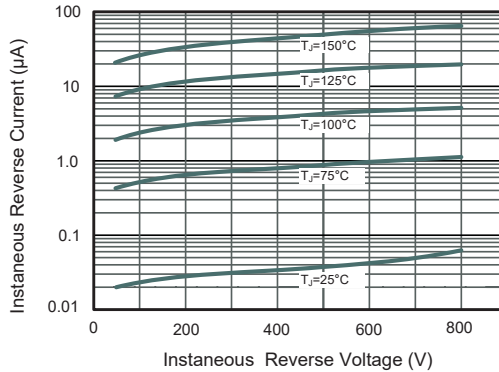


Fig.3 Typical Forward Characteristic

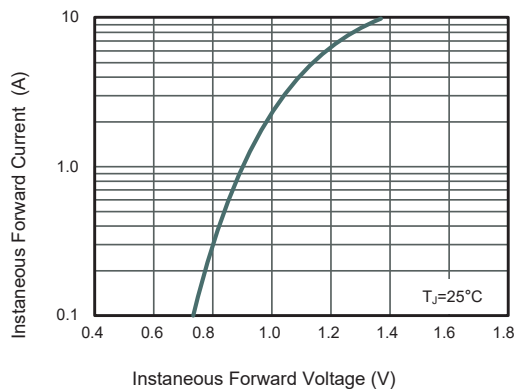


Fig.4 Typical Junction Capacitance

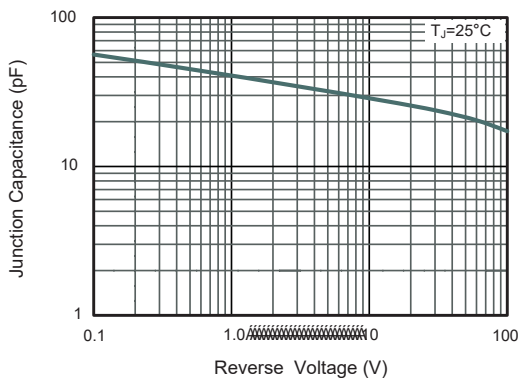
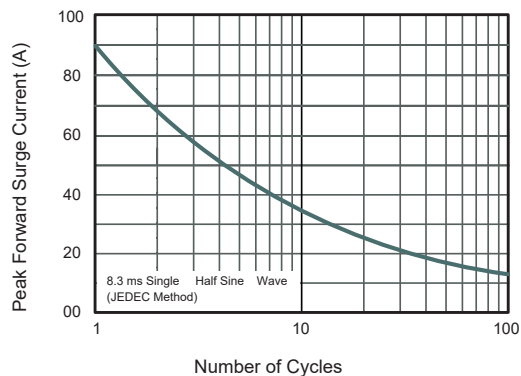


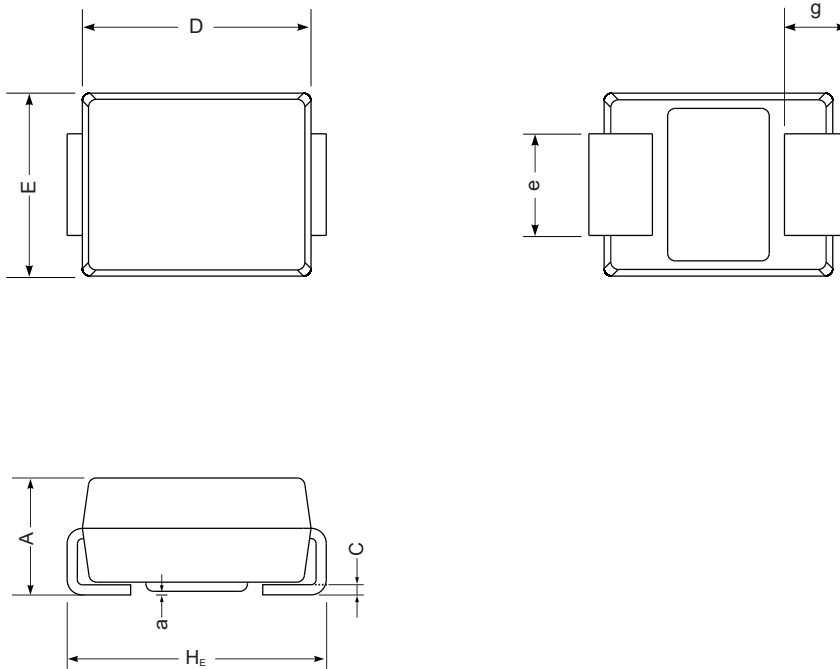
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



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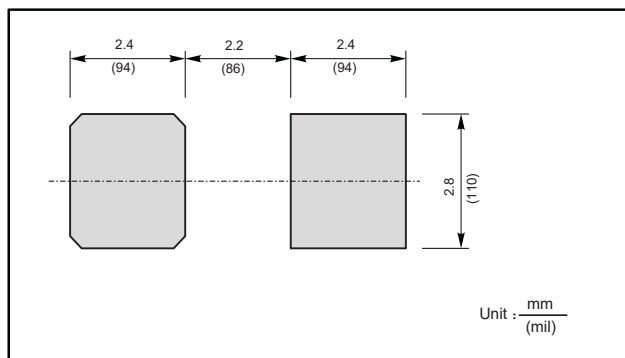
PACKAGE OUTLINE

SMB



| Unit | | A | D | E | H _E | C | e | g | a |
|------|-----|------|------|------|----------------|-------|-----|------|------|
| mm | max | 2.44 | 4.70 | 3.94 | 5.59 | 0.305 | 2.2 | 1.5 | 0.2 |
| | min | 1.98 | 3.99 | 2.54 | 4.93 | 0.152 | 1.3 | 0.76 | 0.05 |

THE RECOMMENDED MOUNTING PAD SIZE



ORDERING INFORMATION

| Device | Package | Shipping |
|----------------------|---------|-------------------------------|
| S3AB-AT thru S3MB-AT | SMB | 3000PCS/ Reel & Tape (13inch) |

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