

Surface Mount General Purpose Silicon Rectifiers

FEATURES:

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

Marking

| Type number | Marking code |
|-------------|--------------|
| S3A | S3A |
| S3B | S3B |
| S3D | S3D |
| S3G | S3G |
| S3J | S3J |
| S3K | S3K |
| S3M | S3M |

Circuit Diagram & Pin Configuration:



SMA/DO-214AC

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 derate by 20 %.

| Parameter | Symbols | S3A | S3B | S3D | S3G | S3J | S3K | S3M | 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 at $T_c = 115\text{ }^{\circ}\text{C}$ | $I_{F(AV)}$ | 3 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 80 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 3 A | V_F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current $T_a = 25\text{ }^{\circ}\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^{\circ}\text{C}$ | I_R | 5 125 | | | | | | | μA |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 32 | | | | | | | pF |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ $R_{\theta JC}$ | 50 16 | | | | | | | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^{\circ}\text{C}$ |

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

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

Fig.1 Forward Current Derating Curve

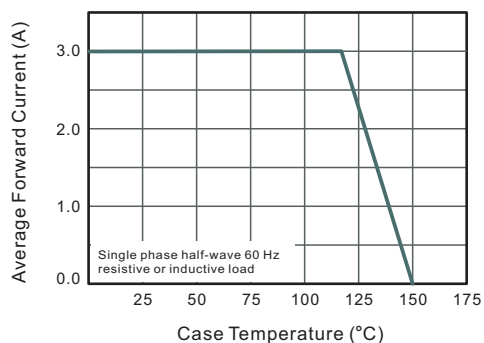


Fig.2 Typical Instantaneous Reverse Characteristics

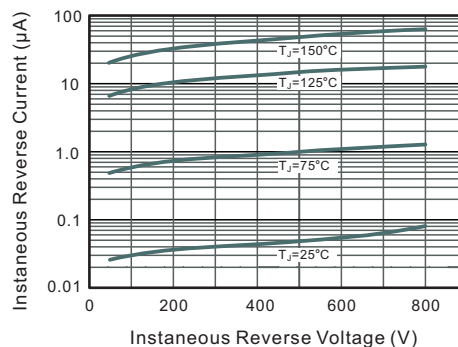


Fig.3 Typical Forward Characteristic

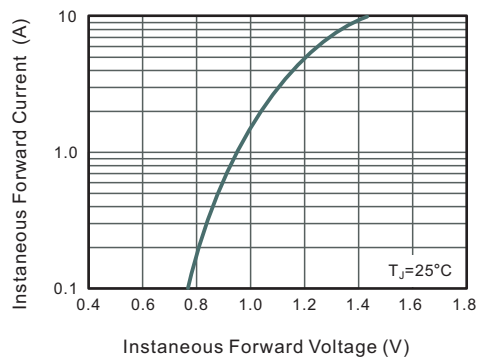


Fig.4 Typical Junction Capacitance

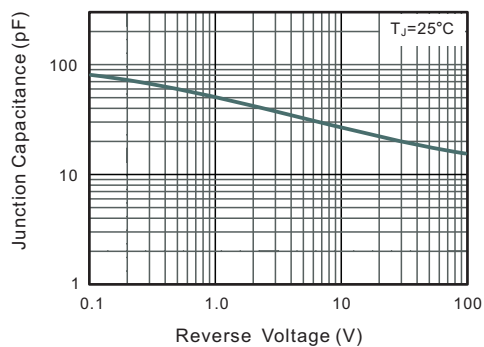
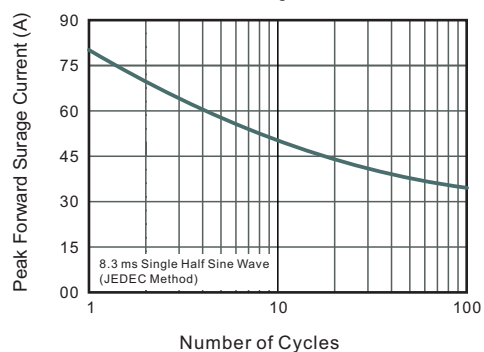


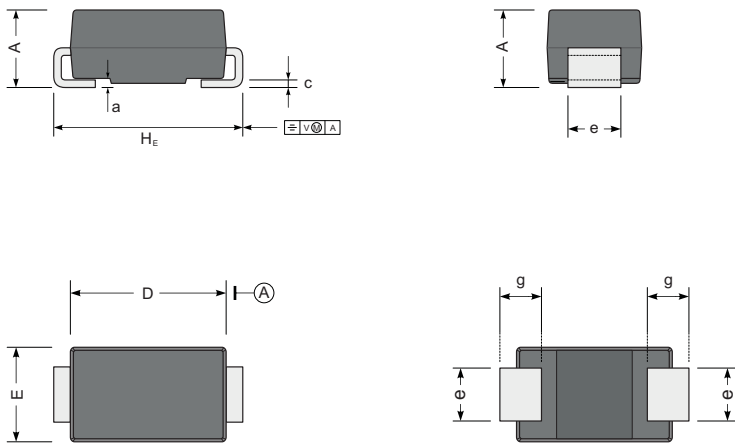
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

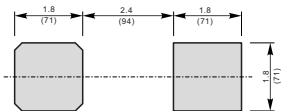
Plastic surface mounted package; 2 leads

SMA/DO-214AC



| UNIT | | A | D | E | H _E | c | e | g | a |
|------|-----|-----|-----|-----|----------------|------|-----|-----|-----|
| mm | max | 2.2 | 4.5 | 2.7 | 5.2 | 0.31 | 1.6 | 1.5 | 0.3 |
| | min | 1.9 | 4.0 | 2.3 | 4.7 | 0.15 | 1.3 | 0.9 | |
| mil | max | 87 | 181 | 106 | 205 | 12 | 63 | 59 | 12 |
| | min | 75 | 157 | 91 | 185 | 6 | 51 | 35 | |

The recommended mounting pad size



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

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