

S1 Series



Standard Recovery Power Diodes



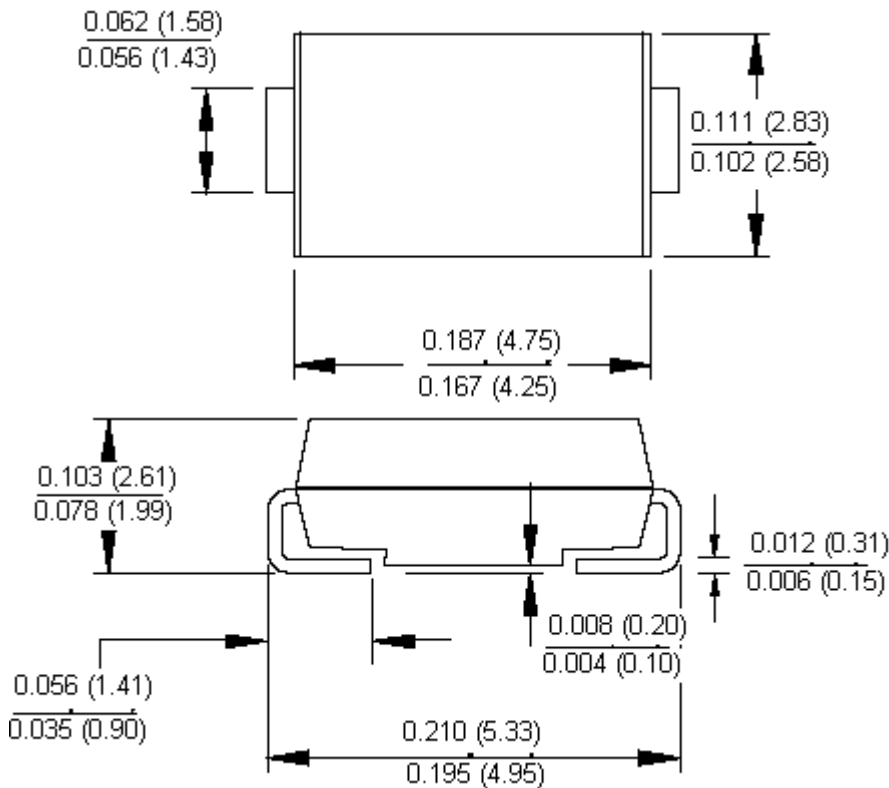
Features:

- For surface mounted application.
- Glass passivated junction chip.
- Low forward voltage drop.
- Easy pick and place.
- High surge current capability.
- High temperature soldering: 250°C/10 seconds at terminals.

Mechanical Data:

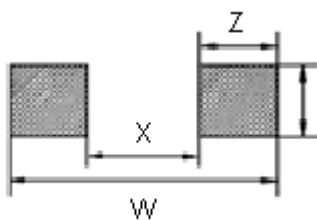
Cases : Moulded plastic.
 Terminals : Solder plated.
 Polarity : Indicated by cathode band.

SMA/DO-214AC



Dimensions : Inches (Millimetres)

Foot Print



Dimensions

| Length | Depth | Width | X | Y | Z |
|--------|-------|-------|-----|------|---|
| 5.33 | 2.61 | 2.83 | 2.3 | 1.71 | 8 |

Dimensions : Millimetres



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Maximum Ratings and Electrical Characteristics

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

| Type Number | S1A | S1B | S1D | S1G | S1J | Unit |
|---|-------------|-----|-----|-----|-----|------------------|
| Maximum recurrent peak reverse voltage | 50 | 100 | 200 | 400 | 600 | V |
| Maximum RMS voltage | 35 | 70 | 140 | 280 | 420 | |
| Maximum DC blocking voltage | 50 | 100 | 200 | 400 | 600 | |
| Maximum average forward rectified current at $T_L = 110^\circ\text{C}$ | 1.0 | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | 30 | | | | | |
| Maximum Instantaneous forward voltage at 1.0A | 1.1 | | | | | V |
| Maximum DC reverse current at $T_A = 25^\circ\text{C}$ at rated DC blocking voltage at $T_A = 125^\circ\text{C}$ | 5 50 | | | | | μA |
| Maximum reverse recovery time (Note 1) | 1.8 | | | | | μS |
| Typical junction capacitance (Note 2) | 12 | | | | | pF |
| Operating temperature range T_J | -55 to +150 | | | | | $^\circ\text{C}$ |
| Storage temperature range T_{STG} | | | | | | |

Notes:

- Reverse recovery test conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.
- Measured at 1MHz and applied $V_R = 4.0$ Volts.

Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

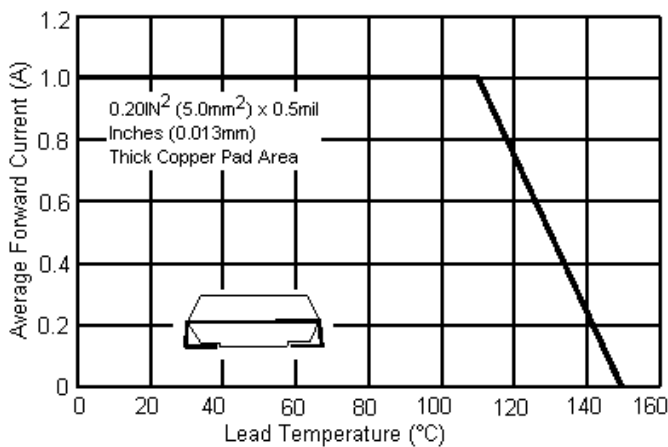
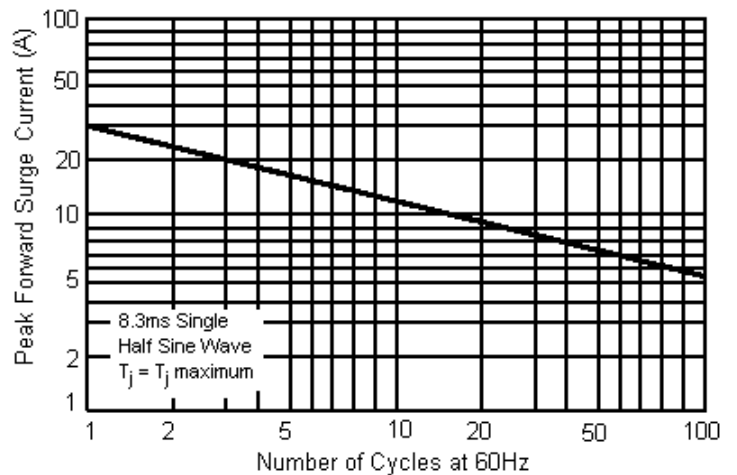


Figure 2 Maximum Non-Repetitive Forward Surge Current



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Figure 3 Typical Forward Characteristics

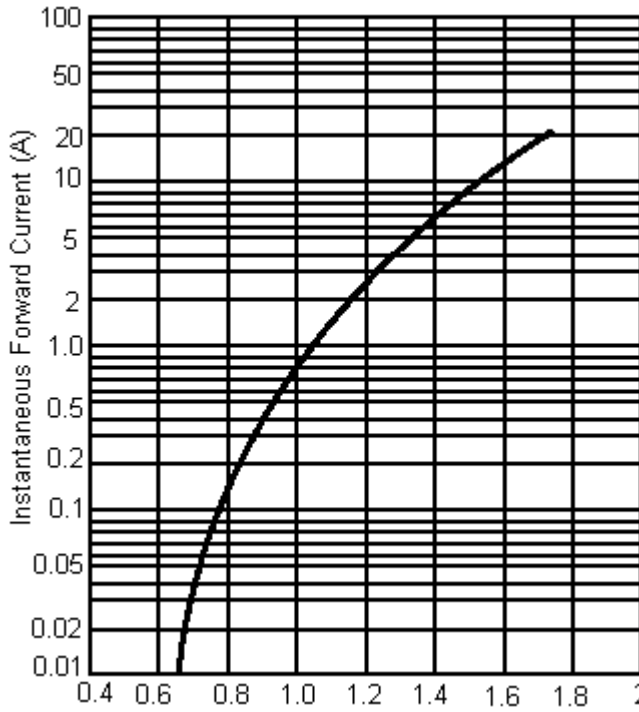


Figure 4 Typical Reverse Characteristics

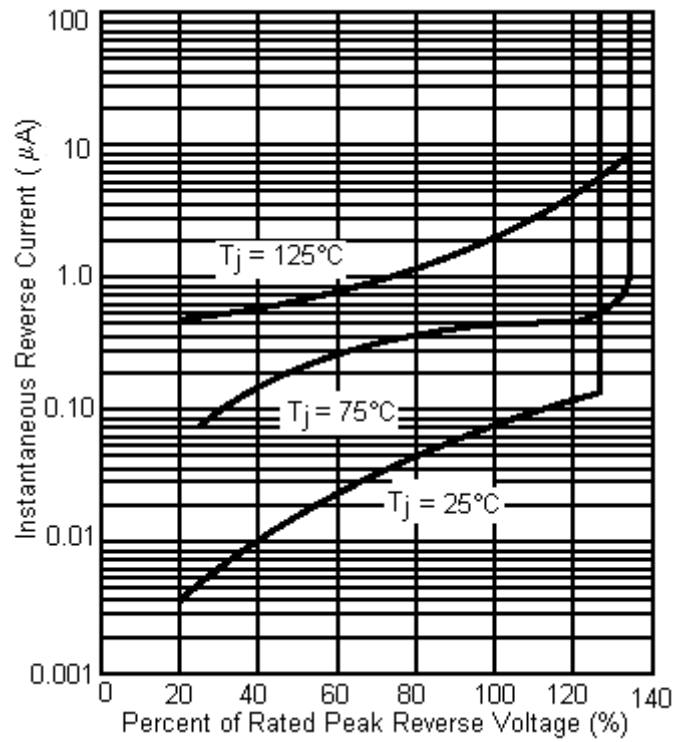
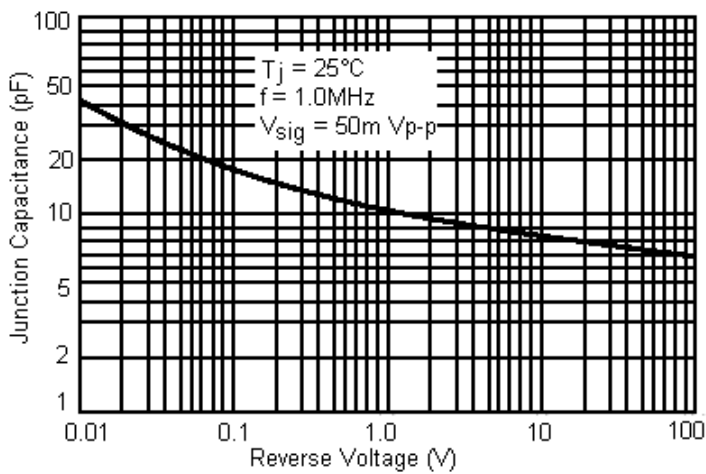


Figure 5 Typical Junction Capacitance



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Specifications

| V_{RRM} maximum (V) | I_{AV} (A) | I_{FSM} (A) | V_F (V) at $I_F = 1A$ at 25°C | Package | Part Number |
|-----------------------------|-----------------|------------------|---------------------------------------|-------------------|-------------|
| 50 | 1 | 30 | 1 | DO-214AC (SMA) | S1A |
| 100 | | | | | S1B |
| 200 | | | | | S1D |
| 400 | | | | | S1G |
| 600 | | | | | S1J |

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Notes:

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