

SS1 Series



Controlled Avalanche Power Diodes



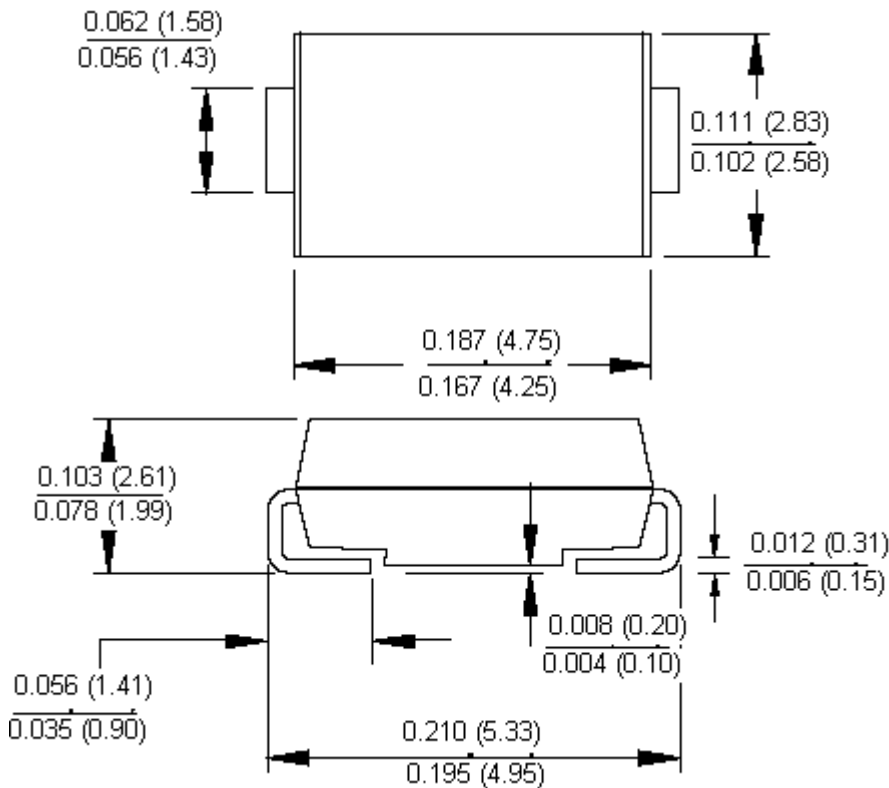
Features:

- For surface mounted application.
- Metal to silicon rectifier, majority carrier conduction.
- Low forward voltage drop.
- Easy pick and place.
- High surge current capability.
- Epitaxial construction.
- 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)



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 | SS14 | SS16 | SS110 | Unit |
|---|-------------|-------------|-------|--------------------|
| Maximum recurrent peak reverse voltage | 40 | 60 | 100 | V |
| Maximum RMS voltage | 28 | 42 | 70 | |
| Maximum DC blocking voltage | 40 | 60 | 100 | |
| Maximum average forward rectified current at T_L (See Figure 1) | 1.0 | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | 30 | | | |
| Maximum Instantaneous forward voltage (Note) at 1.0A | 0.5 | 0.75 | 0.80 | V |
| Maximum DC reverse current at $T_A = 25^\circ\text{C}$ at rated DC blocking voltage at $T_A = 100^\circ\text{C}$ | 0.5 | | 0.05 | mA |
| | 10 | 5.0 | 0.5 | |
| Typical thermal resistance (Note 2) $R_{\theta JL}$ $R_{\theta JA}$ | 28 88 | | | $^\circ\text{C/W}$ |
| Operating temperature range T_J | -65 to +125 | -65 to +150 | | $^\circ\text{C}$ |
| Storage temperature range T_{STG} | -65 to +150 | | | |

Notes:

1. Pulse test with $PW = 300\mu\text{sec}$, 1% duty cycle.
2. Measured on PC Board with $0.2 \times 0.2"$ ($5.0 \times 5.0\text{mm}$) copper pad areas.

Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

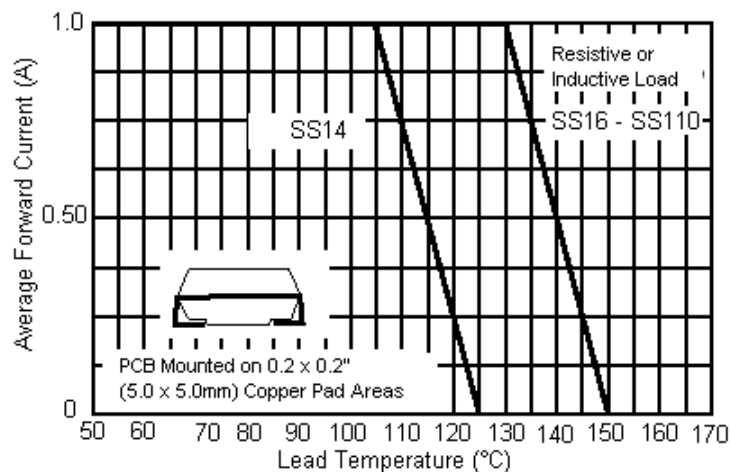


Figure 2 Maximum Non-Repetitive Forward Surge Current

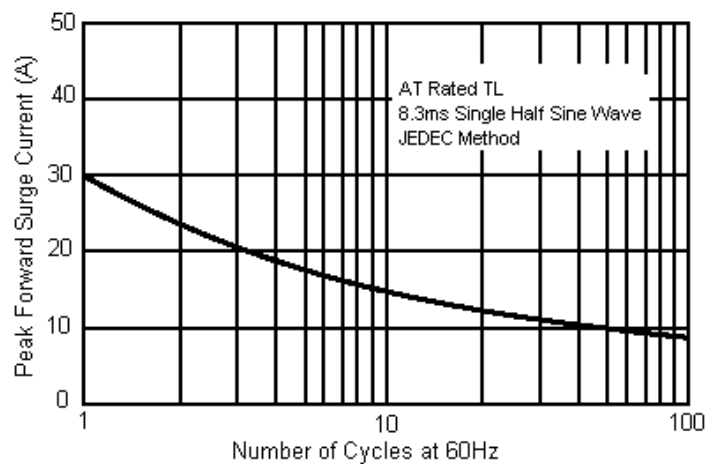


Figure 3 Typical Forward Characteristics

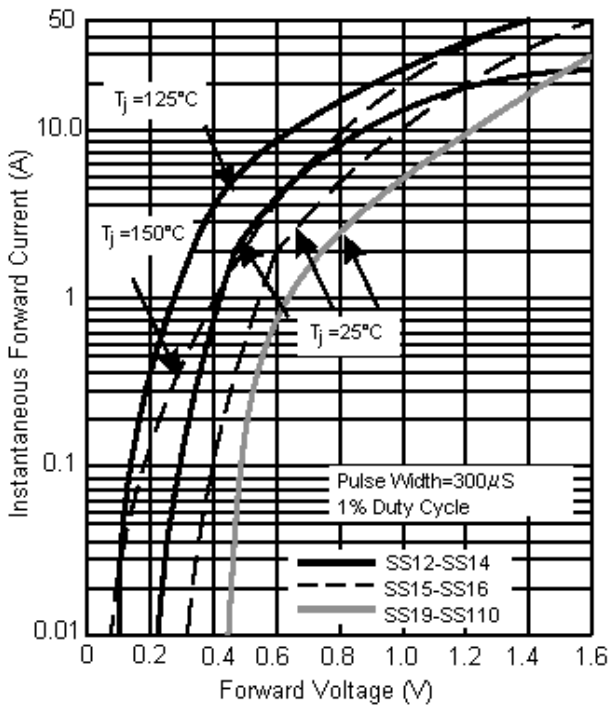


Figure 4 Typical Reverse Characteristics

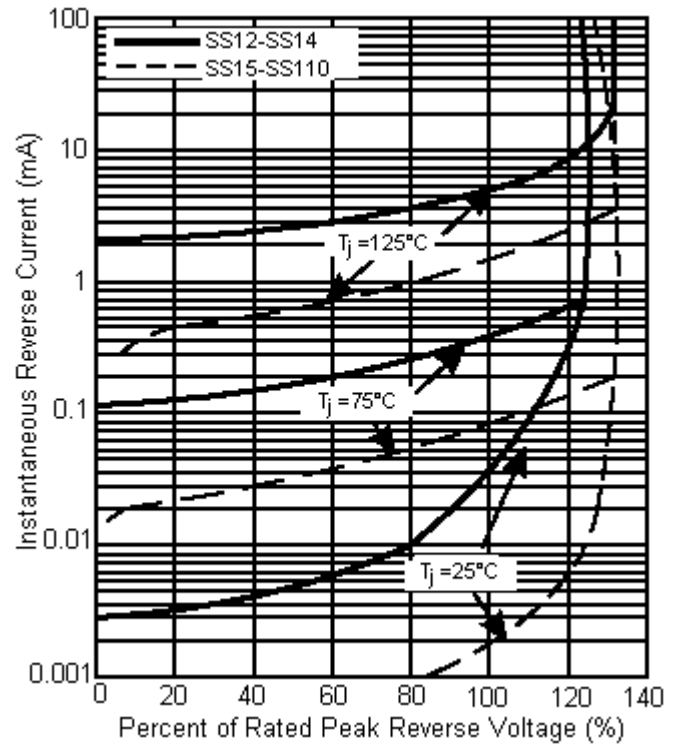
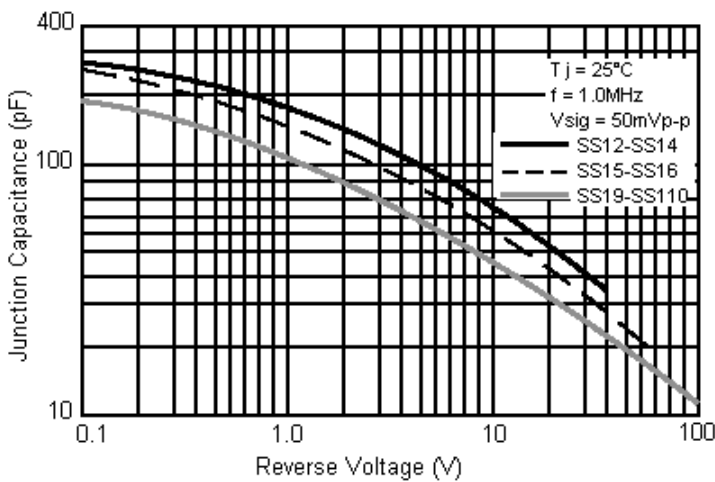


Figure 5 Typical Junction Capacitance



Specifications

| I_F (AV) (A) | T_C ($^\circ\text{C}$) | V_{RRM} (V) | V_{FM} maximum (V) | I_{RM} maximum (mA) | Package | Part Number |
|-------------------|-------------------------------|------------------|----------------------------|-----------------------------|-------------------|-------------|
| 1 | 105 | 40 | 0.5 | 0.5 | DO-214AC (SMA) | SS14 |
| | | 60 | 0.75 | | | SS16 |
| | | 100 | 0.8 | 0.05 | | SS110 |

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Notes:

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