

II. Schottky Rectifier

1.0A Surface Mount Schottky Rectifier S12~S120

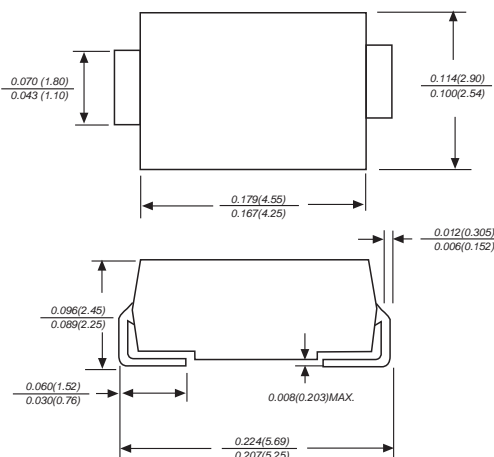
(Package: SMA (DO-214AC))

FEATURES

- The plastic package carries Underwriters Laboratory flammability classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High forward surge current capability
- High temperature soldering guaranteed : 250 /10 seconds at terminals

MECHANICAL DATA

- Case : JEDEC DO-214AC molded plastic body
- Terminals : Solder plated, solderable per MIL-STD-750, method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.093 grams



Case: SMA
Dimensions in inches and (millimetres)

Ratings & 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%.

| Characteristic | Symbol | S12 | S13 | S14 | S15 | S16 | S18 | S110 | S115 | S120 | Units |
|--|-------------|-------------|-----|------|-------------|------|-----|------|------|-------|--------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | Volts |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | Volts |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | Volts |
| Maximum average forward rectified current at TL (see Fig. 1) | I_O | 1.0 | | | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A DC | V_F | 0.55 | | 0.70 | | 0.85 | | 0.95 | | Volts | |
| Maximum DC reverse current at rated DC blocking voltage $T_a = 25^\circ\text{C}$ $T_a = 100^\circ\text{C}$ | I_R | 0.5 | | | | | | 1.0 | | mA | |
| | | 6.0 | | 5.0 | | 10 | | | | | |
| Typical junction capacitance (Note 1) | C_j | 110 | | 90 | | | | | | PF | |
| Typical thermal resistance (Note 2) | R_{th-JA} | 88 | | | | | | | | | $^\circ\text{C/W}$ |
| Operating junction temperature range | T_j | -65 to +125 | | | -65 to +150 | | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -65 to +150 | | | | | | | | | $^\circ\text{C}$ |

Notes:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts D.C.
2. P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

Ratings and Characteristic Curves of S12~S120

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE

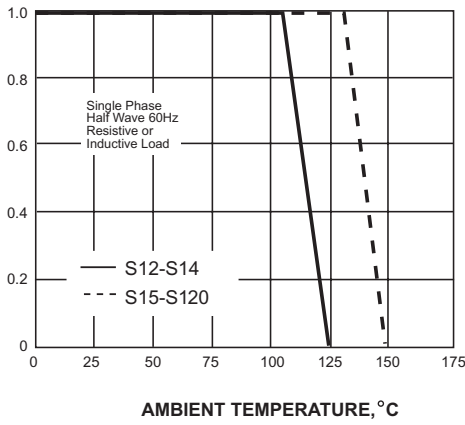


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

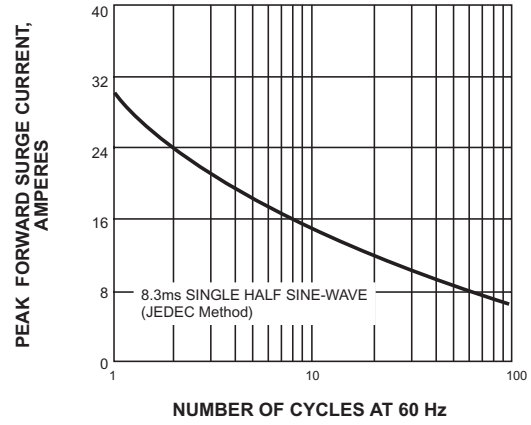


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

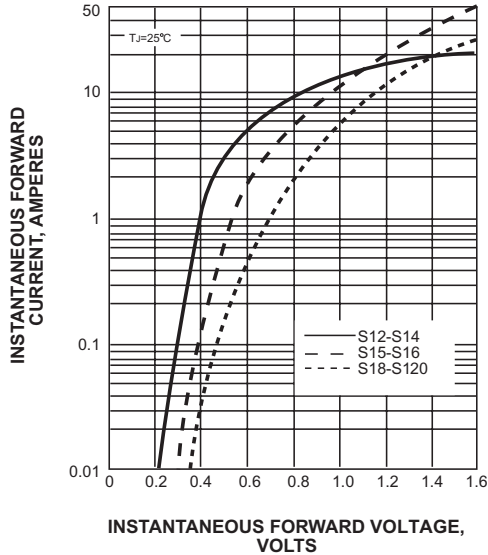


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

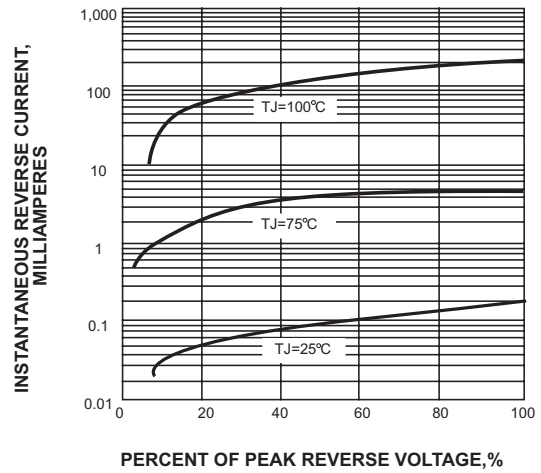


FIG. 5-TYPICAL JUNCTION CAPACITANCE

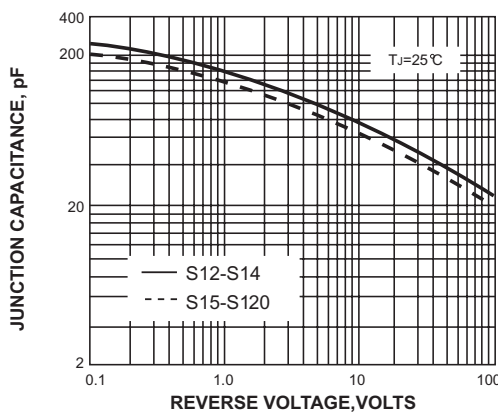


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

