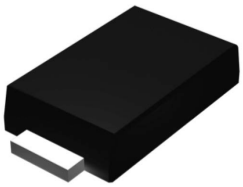
# GSS22S thru GSS220S

Surface Mount Schottky Barrier Rectifiers

Reverse Voltage 20V to 200V  Forward Current 2A

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Built-in strain relief
- For surface mounted applications
- Low profile package
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



SMAF

RoHS COMPLIANT

## Mechanical Data

- Case: SMAF molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end

## Maximum Ratings

(Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.)

| Parameter | Symbols | GSS 22S | GSS 23S | GSS 24S | GSS 26S | GSS 210S | GSS 215S | GSS 220S | Units |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | 60 | 100 | 150 | 200 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | 42 | 71 | 105 | 140 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | 60 | 100 | 150 | 200 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 2.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC Method) | $I_{FSM}$ | 50.0 | | | | | | | A |
| Typical Thermal Resistance[2] | $R_{\theta JA}$ | 150 | | | | | | | °C/W |
| | $R_{\theta JM}$ | 17 | | | | | | | °C/W |
| Operating Junction Temperature Range | $T_J$ | -55 to +150 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | | | °C |

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.)

| Parameter | Symbols | Conditions | GSS 22S | GSS 23S | GSS 24S | GSS 26S | GSS 210S | GSS 215S | GSS 220S | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage[1] | $V_F$ | $I_F$=2.0A | 0.55 | | | 0.70 | 0.85 | 0.90 | 0.95 | V |
| Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage[1] | $I_R$ | $T_J$=25°C | 100 | | | | 20 | | | μA |
| | | $T_J$=100°C | 5 | | | | - | | | mA |
| | | $T_J$=125°C | - | | | | 3 | | | |

Notes:

1. Pulse test: 300μs pulse width, 1% duty cycle
2. The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_D/dT_J < 1/R_{\theta JA}$
   $R_{\theta JA}$ (Junction-ambient) to follow JEDEC51-2A, device mounted on FR4 PCB, 2 oz., standard footprint
   $R_{\theta JM}$ (Junction-to mount) to follow JEDEC51-14 transient dual interface test method (TDIM)

## Ratings and Characteristics Curves

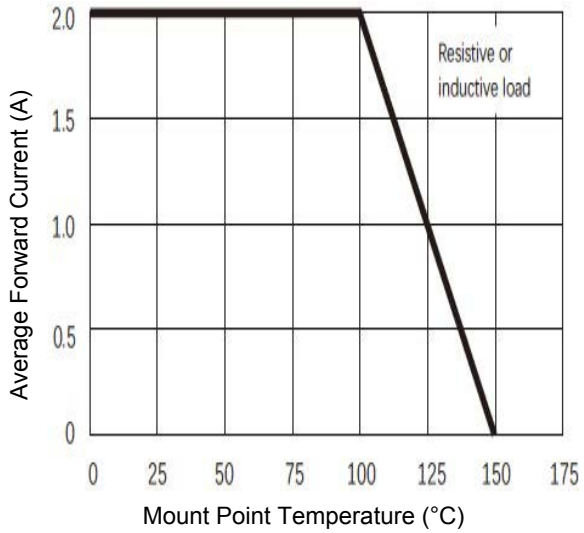



**Figure 1. Forward Current Derating Curve**

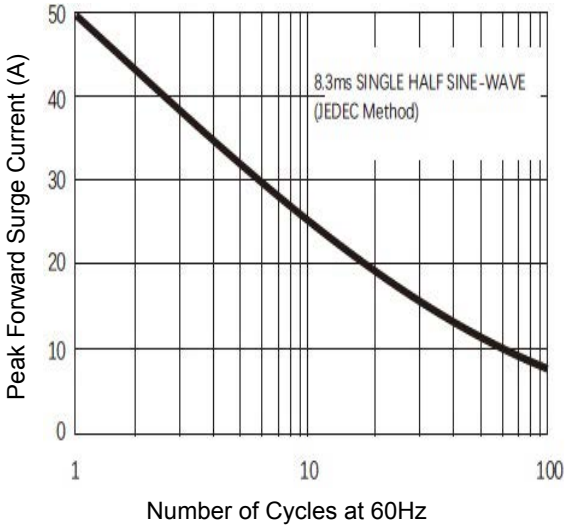



**Figure 2. Maximum Non-Repetitive Peak Forward Surge Current**

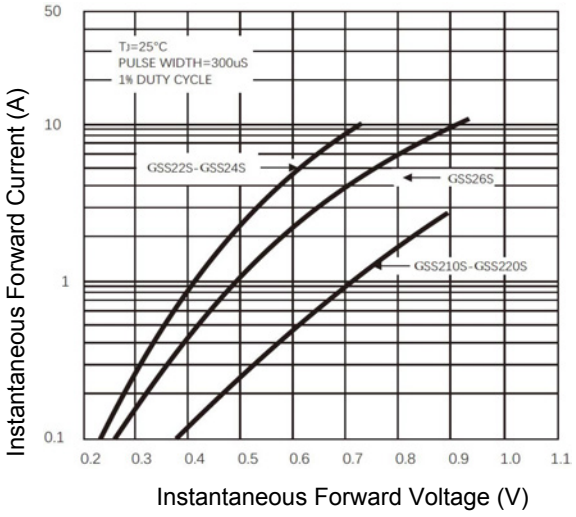



**Figure 3. Typical Instantaneous Forward Characteristics**

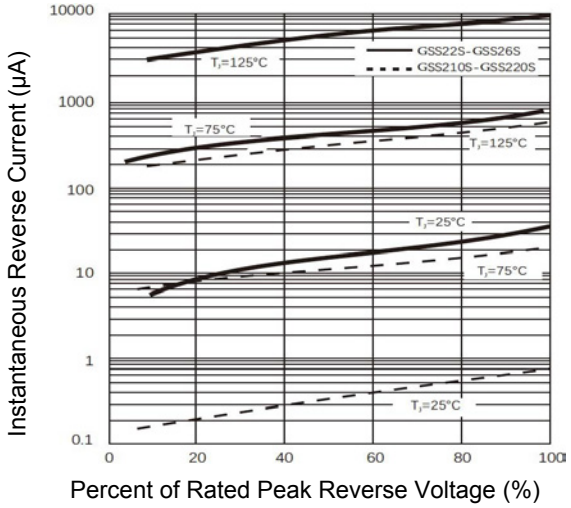



**Figure 4. Typical Reverse Characteristics**

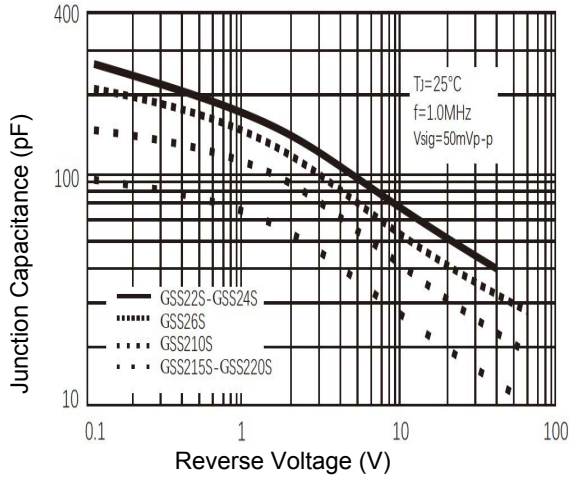



**Figure 5. Typical Junction Capacitance**

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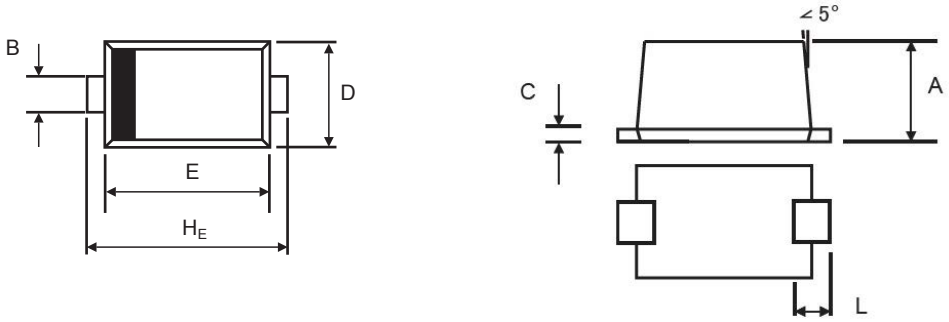
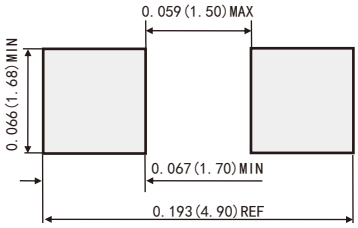
## Package Outline Dimensions (SMAF)




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.90 | 1.50 | 0.035 | 0.059 |
| B | 1.30 | 1.60 | 0.051 | 0.063 |
| C | 0.10 | 0.30 | 0.004 | 0.012 |
| D | 2.40 | 2.80 | 0.094 | 0.110 |
| E | 3.25 | 3.70 | 0.128 | 0.146 |
| HE | 4.35 | 4.90 | 0.172 | 0.193 |
| L | 0.60 | 1.20 | 0.024 | 0.047 |

## Recommended Pad Layout




Dimensions in inches and (millimeters)

## Order Information

| Device | Package | Marking Code | Carrier | Quantity |
|---|---|---|---|---|
| GSS22S | SMAF | SS22S | Tape & Reel | 3,000 Pcs / Reel |
| GSS23S | SMAF | SS23S | Tape & Reel | 3,000 Pcs / Reel |
| GSS24S | SMAF | SS24S | Tape & Reel | 3,000 Pcs / Reel |
| GSS26S | SMAF | SS26S | Tape & Reel | 3,000 Pcs / Reel |
| GSS210S | SMAF | SS210S | Tape & Reel | 3,000 Pcs / Reel |
| GSS215S | SMAF | SS215S | Tape & Reel | 3,000 Pcs / Reel |
| GSS220S | SMAF | SS220S | Tape & Reel | 3,000 Pcs / Reel |