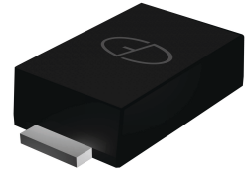


# GSGP1A thru GSGP7A

Surface Mount Glass Passivated Standard Rectifier  
Reverse Voltage 50-1000V Forward Current 1A

## Features

- Low forward voltage drop
- Low leakage current
- Glass passivated Standard Rectifier
- Low profile - typical height of 1.0 mm
- Moisture sensitivity: level 1, per J-STD-020
- High temperature soldering guaranteed: 260°C/10 seconds
- Halogen-free according to IEC 61249-2-21 definition



Package: eSGP  
(SOD-323F)



**RoHS**  
COMPLIANT

## Typical Applications

For use of general purpose rectification in lighting, cellular phones, portable devices, power supplies and other consumer applications.

## Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter                                                                            | Symbol                            | GSGP1A        | GSGP2A | GSGP3A | GSGP4A | GSGP5A | GSGP6A | GSGP7A | Unit |
|--------------------------------------------------------------------------------------|-----------------------------------|---------------|--------|--------|--------|--------|--------|--------|------|
| Maximum Repetitive Peak Reverse Voltage                                              | V <sub>RRM</sub>                  | 50            | 100    | 200    | 400    | 600    | 800    | 1000   | V    |
| Maximum RMS Voltage                                                                  | V <sub>RMS</sub>                  | 35            | 70     | 140    | 280    | 420    | 560    | 700    | V    |
| Maximum DC Blocking Voltage                                                          | V <sub>DC</sub>                   | 50            | 100    | 200    | 400    | 600    | 800    | 1000   | V    |
| Maximum Average Forward Rectified Current at TL (See Fig.1)                          | I <sub>F(AV)</sub>                | 1.0           |        |        |        |        |        |        | A    |
| Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load) | I <sub>FSM</sub>                  | 25            |        |        |        |        |        |        | A    |
| Operating Junction and Storage Temperature Range                                     | T <sub>J</sub> , T <sub>STG</sub> | - 55 to + 150 |        |        |        |        |        |        | °C   |

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter                                               | Test Conditions                                                       | Symbol           | SGP1A | SGP2A | SGP3A | SGP4A | SGP5A | SGP6A | SGP7A | Unit |
|---------------------------------------------------------|-----------------------------------------------------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Maximum Instantaneous Forward Voltage                   | 1 A                                                                   | V <sub>F</sub>   | 1.1   |       |       |       |       |       |       | V    |
| Maximum DC Reverse Current at rated DC Blocking Voltage | T <sub>A</sub> =25°C                                                  | I <sub>R</sub>   | 5     |       |       |       |       |       |       | μA   |
|                                                         | T <sub>A</sub> =125°C                                                 |                  | 50    |       |       |       |       |       |       |      |
| Typical Reverse Recovery Time                           | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A,<br>I <sub>rr</sub> =0.25A | t <sub>rr</sub>  | 1.8   |       |       |       |       |       |       | μs   |
| Typical Junction Capacitance                            | 4.0 V, 1 MHz                                                          | C <sub>J</sub>   | 5     |       |       |       |       |       |       | pF   |
| Typical Thermal Resistance <sup>1)</sup>                | Juntion to Mount                                                      | R <sub>θJM</sub> | 55    |       |       |       |       |       |       | °C/W |

Note:1)The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 5×5mm copper pads,2 OZ,FR4 PC

## Ratings and Characteristics Curves

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

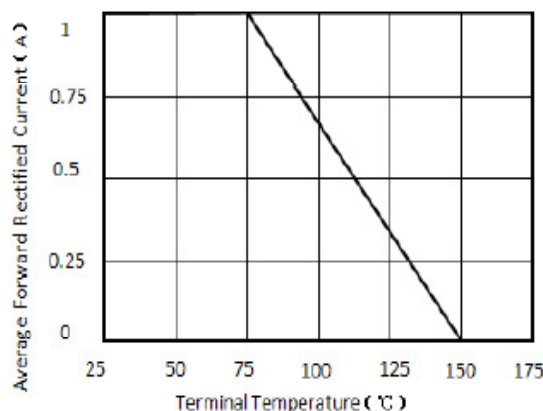


Figure 1. Forward Current Derating Curve

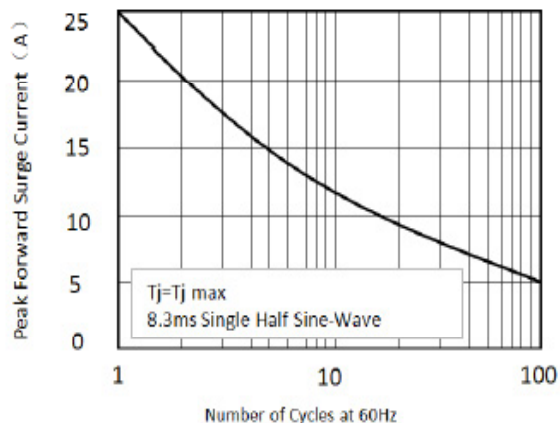


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

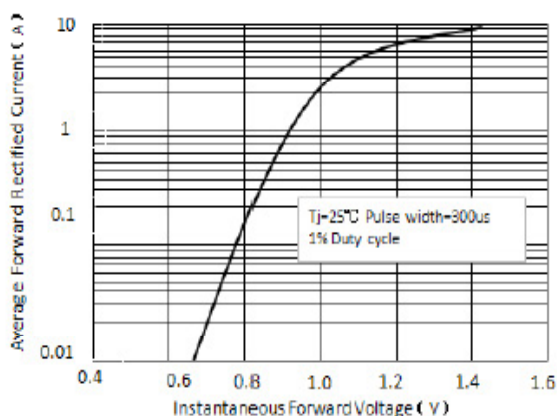


Figure 3. Typical Instantaneous Forward Characteristics

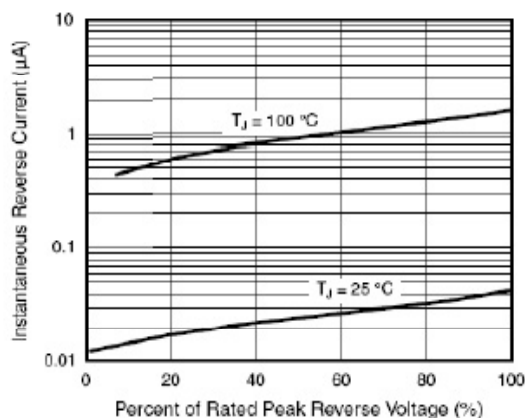


Figure 4. Typical Reverse Characteristics

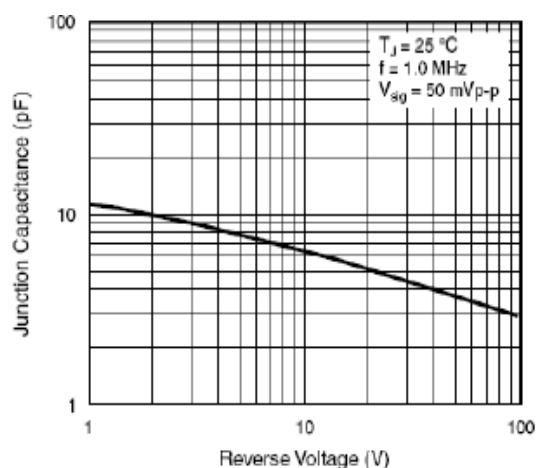


Figure 5. Typical Junction Capacitance

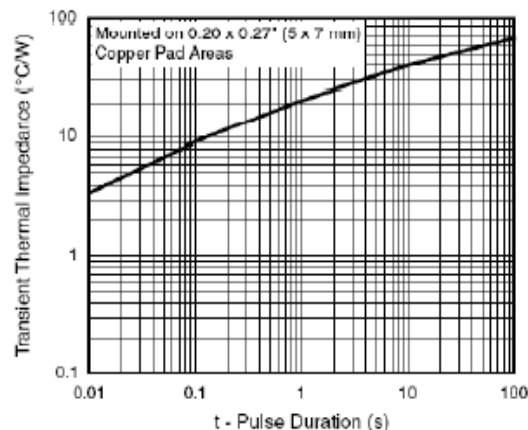


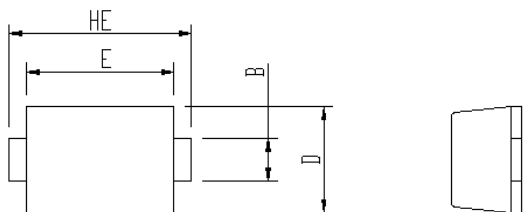
Figure 6. Typical Transient Thermal Impedance

# GSGP1A thru GSGP7A

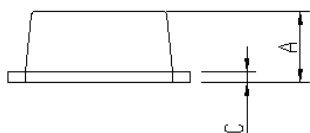
Surface Mount Glass Passivated Standard Rectifier  
Reverse Voltage 50-1000V Forward Current 1A

## Package Outline Dimensions

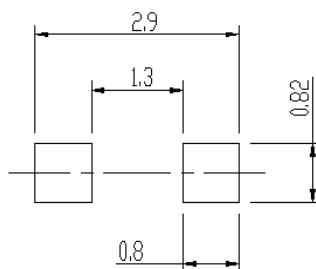
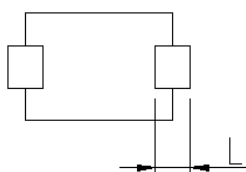
eSGP (SOD-323F)



| Package | Unit:mm |      | Unit:inch |       |
|---------|---------|------|-----------|-------|
|         | MIN     | MAX  | MIN       | MAX   |
| A       | 0.9     | 1.08 | 0.035     | 0.043 |
| B       | 0.5     | 0.7  | 0.020     | 0.028 |
| C       | 0.1     | 0.25 | 0.004     | 0.010 |
| D       | 1.4     | 1.6  | 0.055     | 0.063 |
| E       | 2.0     | 2.2  | 0.079     | 0.087 |
| L       | 0.35    | 0.65 | 0.014     | 0.026 |
| HE      | 2.4     | 2.8  | 0.094     | 0.110 |



Soldering footprint



## Packing Information

Packing quantities:

3000 pcs/Reel, 40 Reels/Box; 8mm Tape, 7" Reel

Tape & Reel Specification

