



# DATA SHEET

## GS1A~GS1M

### SURFACE MOUNT RECTIFIER

VOLTAGE- 50 to 1000 Volts CURRENT - 1.0 Ampere

Unit: inch ( mm )

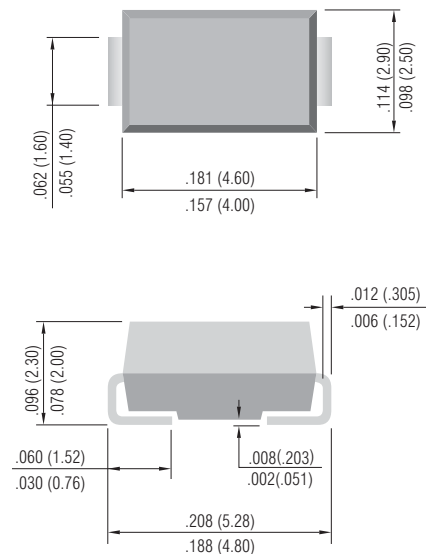
#### FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated chip junction
- High temperature soldering : 260°C /10 seconds at terminals

#### MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic  
 Terminals: Solder plated, solderable per MIL-STD-750, Method 2026  
 Polarity: Indicated by cathode band  
 Standard packaging: 12mm tape (EIA-481)  
 Weight: 0.002 ounce, 0.064 gram

#### SMA / DO-214AC



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

|  | SYMBOLS      | GS1A        | GS1B | GS1D | GS1G | GS1J | GS1K | GS1M | UNIT                      |
|--|--------------|-------------|------|------|------|------|------|------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$    | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                         |
| Maximum RMS Voltage  | $V_{RMS}$    | 35          | 70   | 140  | 280  | 420  | 560  | 700  | v                         |
| Maximum DC Blocking Voltage  | $V_{DC}$     | 50          | 100  | 200  | 400  | 600  | 800  | 100  | V                         |
| Maximum Average Forward Rectified Current, at $T_L=75^\circ\text{C}$                             | $I(AV)$      | 1.0         |      |      |      |      |      |      | A                         |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$    | 30.0        |      |      |      |      |      |      | A                         |
| Maximum Instantaneous Forward Voltage at 1.0A  | $V_F$        | 1.10        |      |      |      |      |      |      | V                         |
| Maximum DC Reverse Current $T_A=25^\circ\text{C}$  | $I_R$        | 5.0         |      |      |      |      |      |      | $\mu\text{A}$             |
| at Rated DC Blocking Voltage $T_A=125^\circ\text{C}$   |              | 50.0        |      |      |      |      |      |      | $\mu\text{A}$             |
| Maximum Reverse Recovery Time(Note 1) $T_J=25^\circ\text{C}$                                     | $T_{RR}$     | 2.5         |      |      |      |      |      |      | $\mu\text{s}$             |
| Typical Junction Capacitance (Note 2)  | $C_J$        | 12          |      |      |      |      |      |      | pF                        |
| Maximum Thermal Resistance(Note 3) $R\theta JA$  | $R\theta JA$ | 30.0        |      |      |      |      |      |      | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range  | $T_{J, STG}$ | -55 to +150 |      |      |      |      |      |      | $^\circ\text{C}$          |

NOTES:1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$   
 2. Measured at 1 MHz and applied  $V_r = 4.0$  volts.  
 3. 8.0 mm<sup>2</sup> ( .013mm thick ) land areas.



RATING AND CHARACTERISTIC CURVES

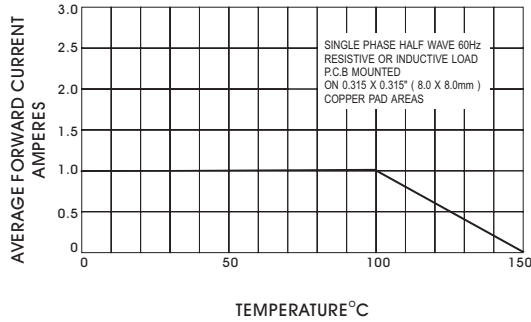


Fig. 1- DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

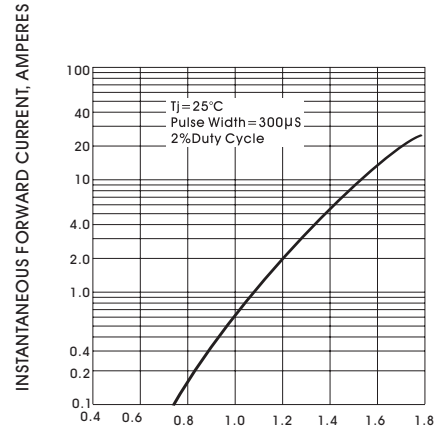


Fig. 2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER ELEMENT

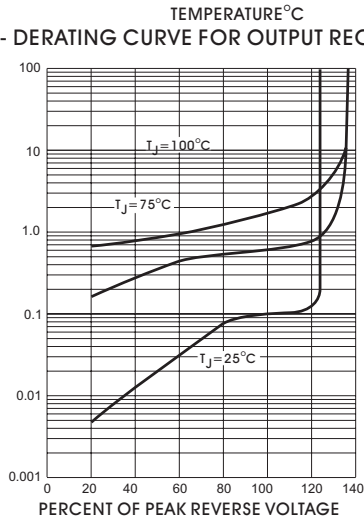


Fig. 3- TYPICAL REAK REVERSE CHARACTERISTICS

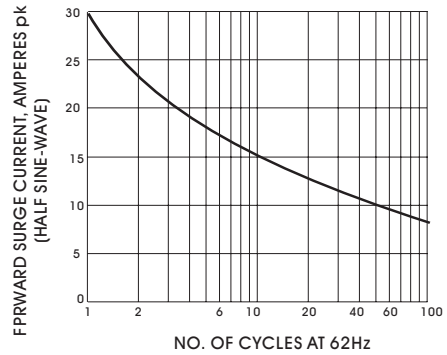


Fig. 4- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

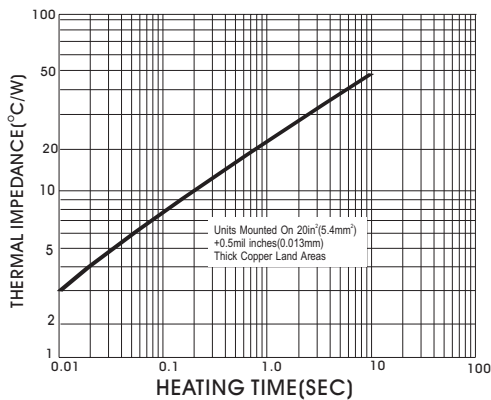


Fig. 5- TRANSIENT THERMAL IMPEDANCE

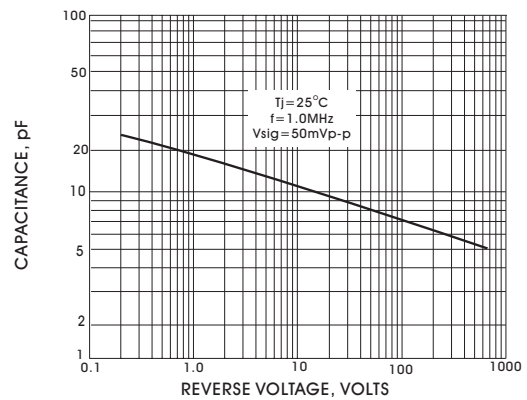


Fig. 6- TYPICAL JUNCTION CAPACITANCE PER ELEMENT