

# **GSEM513G thru GSEM518G**

General Purpose Silicon Rectifiers  
 Reverse Voltage 1600V to 2000V Forward Current 1A

## **Features**

- The plastic package carries underwriters laboratory flammability classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
 260°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension



DO-204AL (D0-41)

## **Mechanical Data**

- Case: JEDEC DO-41 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.012 ounce, 0.33 grams.

## **Absolute Maximum Ratings and Electrical Characteristics**

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

Parameters	Symbols	GSEM513G	GSEM516G	GSEM518G	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	1600	1800	2000	V
Maximum RMS Voltage	$V_{RMS}$	1120	1260	1400	
Maximum DC Blocking Voltage	$V_{DC}$	1600	1800	2000	
Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	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	$V_F$	1.1			V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0			$\mu\text{A}$
Typical Junction Capacitance <sup>1</sup>	$C_J$	10.0			pF
Typical Thermal Resistance <sup>2</sup>	$R_{\theta JA}$	50.0			°C/W
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150			°C

**Notes:** 1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts D.C.  
 2. Thermal resistance from junction to ambient 0.375" (9.5mm) lead length, P.C.B. mounted

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## Ratings and Characteristics Curves

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

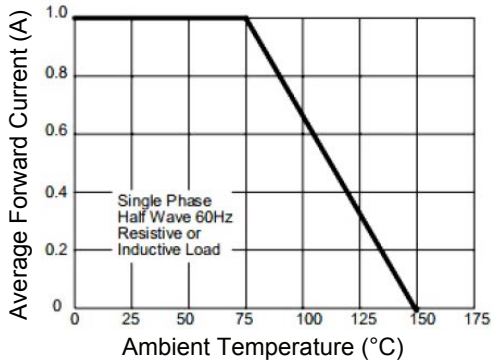


Figure 1. Typical Forward Current Derating Curve

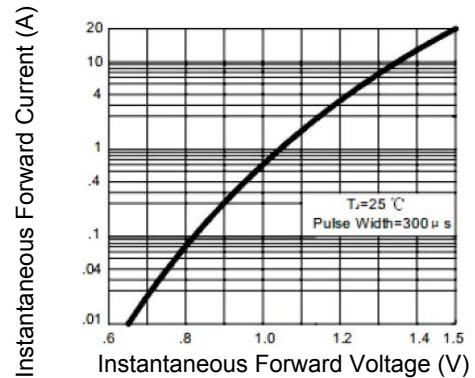


Figure 2. Typical Instantaneous Forward Characteristics

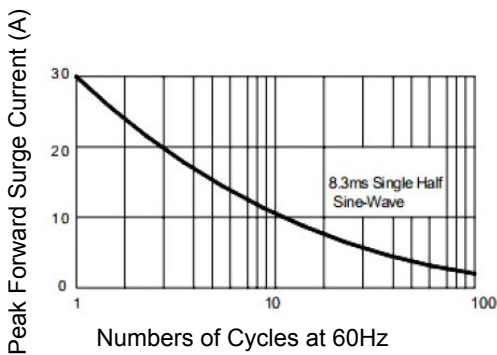


Figure 3. Maximum Non-Repetitive Forward Surge Current

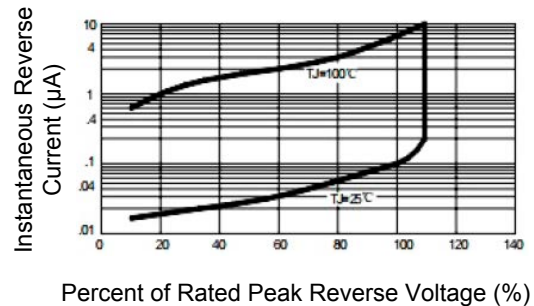


Figure 4. Typical Reverse Characteristics

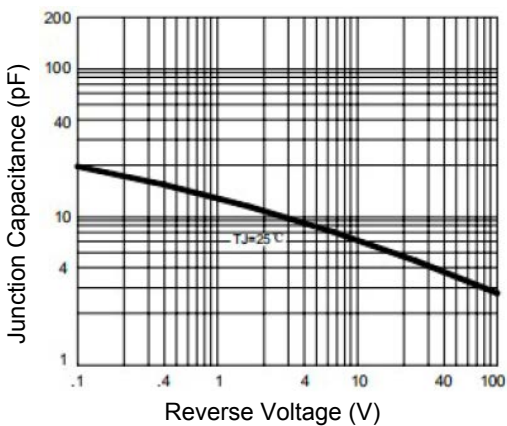
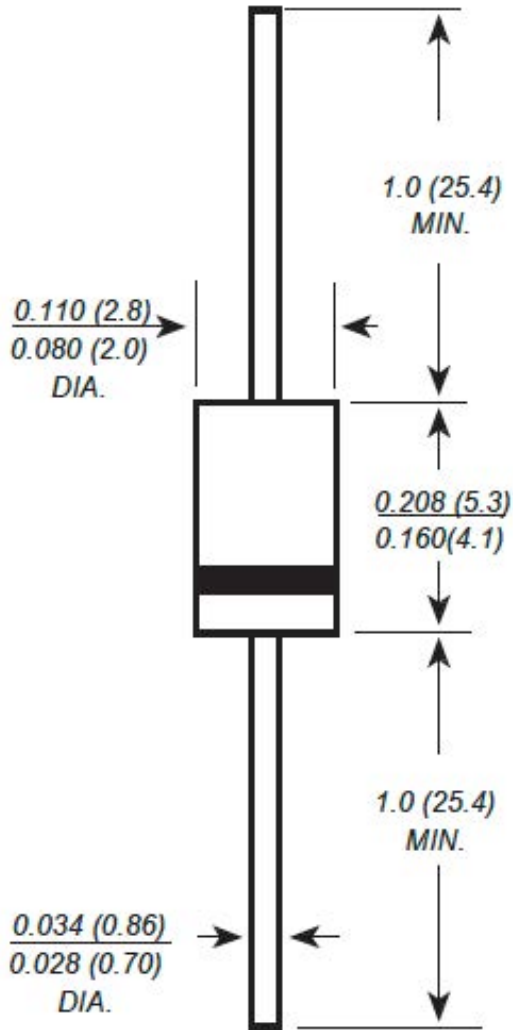


Figure 5. Typical Junction Capacitance

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## **Package Outline Dimensions DO-41**



Dimensions in inches and (millimeters)