

# GSUS1AS thru GSUS1MS

High Efficient Surface Mount Rectifiers  
 Reverse Voltage 50V-1000V Forward Current 1A

## Features

- Plastic package has underwriters laboratory flammability classification 94V-0
- Glass passivated junction
- Low power loss, high efficiency
- High surge current capability
- High speed switching, low leakage
- Low forward voltage drop
- High current capability, high reliability
- High temperature soldering guaranteed: 260 C/10 seconds at terminals
- Component in accordance to RoHS 2011/65 EU



SMAF

## 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 and Electrical Characteristics

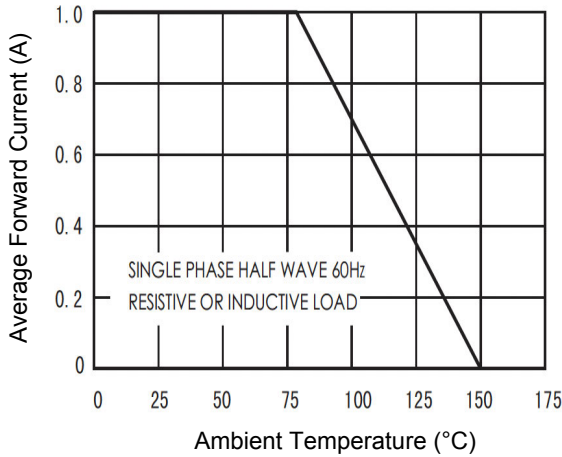
(Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.)

Parameter	Symbol	GSUS 1AS	GSUS 1BS	GSUS 1DS	GSUS 1FS	GSUS 1GS	GSUS 1JS	GSUS 1KS	GSUS 1MS	Unit	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V	
Maximum Average Forward Rectified Current	$I_{(AV)}$	1								A	
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30								A	
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1			1.4		1.7			V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	5								$\mu\text{A}$	
	$T_A=100^\circ\text{C}$	50									
Typical Thermal Resistance	$R_{\theta JA}$	50								$^\circ\text{C/W}$	
Maximum Reverse Recovery Time <sup>1</sup>	$t_{rr}$	50					75				nS
Typical Junction Capacitance <sup>2</sup>	$C_J$	15								pF	
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150								$^\circ\text{C}$	

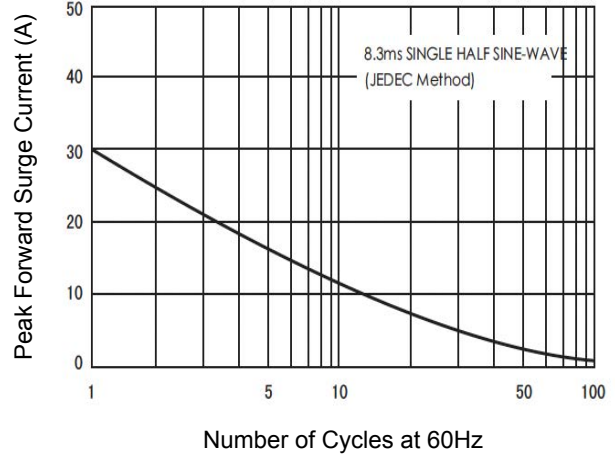
Notes:

1. Test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$ .
2. Measured at 1MHz and applied reverse voltage of 4.0 Volts.

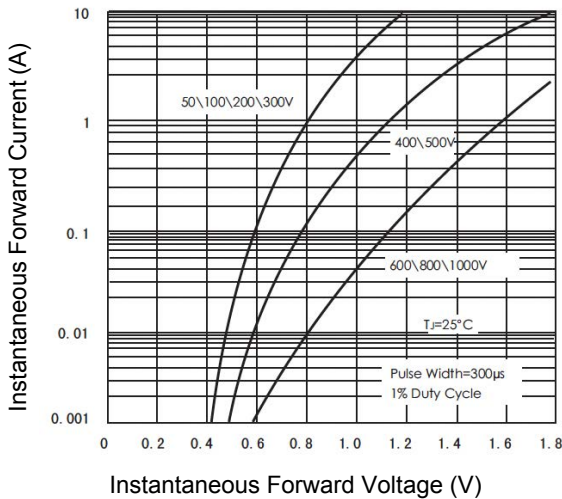
## Ratings and Characteristics Curves



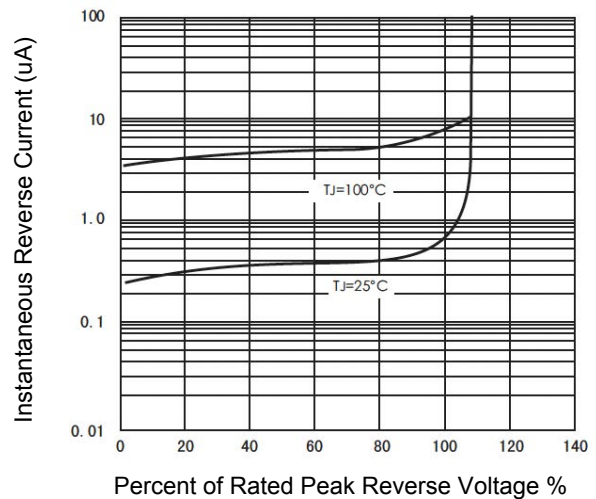
**Figure 1. Forward Current Derating Curve**



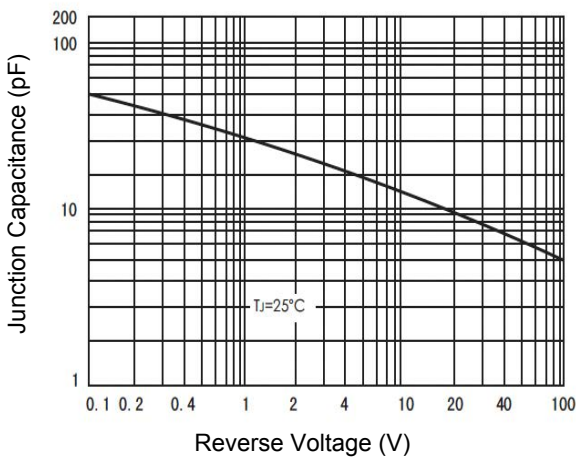
**Figure 2. Maximum Non-Repetitive Peak Forward Surge Current**



**Figure 3. Typical Instantaneous Forward Characteristics**



**Figure 4. Typical Reverse Characteristics**

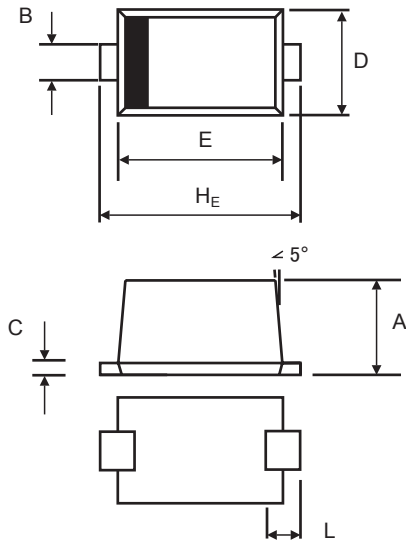


**Figure 5. Typical Junction Capacitance**

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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	0.171	0.193
L	0.60	1.20	0.024	0.047

## Order Information

Device	Package	Marking	Quantity	HSF Status
GSUS1AS	SMAF	US1AS	3,000pcs / Reel	RoHS Compliant
GSUS1BS	SMAF	US1BS	3,000pcs / Reel	RoHS Compliant
GSUS1DS	SMAF	US1DS	3,000pcs / Reel	RoHS Compliant
GSUS1FS	SMAF	US1FS	3,000pcs / Reel	RoHS Compliant
GSUS1GS	SMAF	US1GS	3,000pcs / Reel	RoHS Compliant
GSUS1JS	SMAF	US1JS	3,000pcs / Reel	RoHS Compliant
GSUS1KS	SMAF	US1KS	3,000pcs / Reel	RoHS Compliant
GSUS1MS	SMAF	US1MS	3,000pcs / Reel	RoHS Compliant