

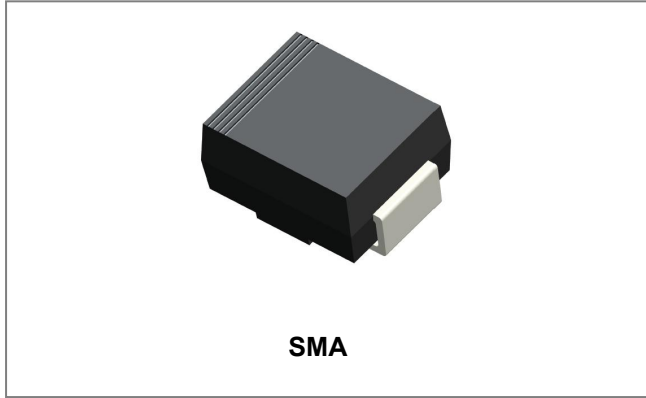


# THE DATASHEET OF GS1K



## GS1A THRU GS1M

### 1.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER



#### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop
- Low Power Loss
- Built-in Strain Relief
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- This is a Pb – Free Device
- “-HF” suffix is for Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

#### Circuit Diagram



#### Mechanical Data

- Case: SMA molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.06 grams

#### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	Units	
Peak Repetitive Reverse Voltage	$V_{RRM}$									
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	400	600	800	1000	V	
DC Blocking Voltage	$V_R$									
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V	
Average Rectified Output Current @ $T_L = 100^\circ\text{C}$	$I_O$	1.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30								A
Forward Voltage @ $I_F = 1.0\text{ A}$	$V_F$	1.10								V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_{RM}$	5.0 200								$\mu\text{A}$
Reverse Recovery Time(Note1)	$t_{rr}$	2.5								$\mu\text{S}$
Typical Junction Capacitance(Note2)	$C_J$	15								pF
Typical Thermal Resistance Junction to Lead (Note 3)	$R_{\theta JL}$	30								$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175								$^\circ\text{C}$

Note: 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Mounted on P.C.B. with 8.0mm<sup>2</sup> land areas.

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**Ratings and Characteristics Curves**

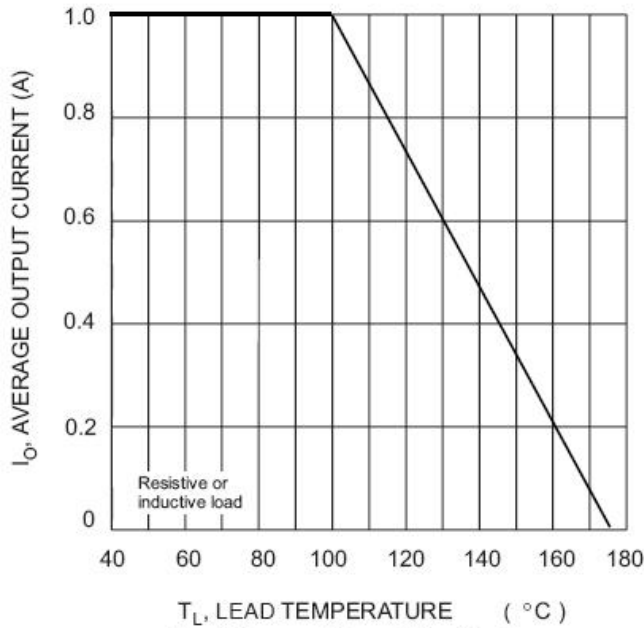


Fig. 1 Forward Current Derating Curve

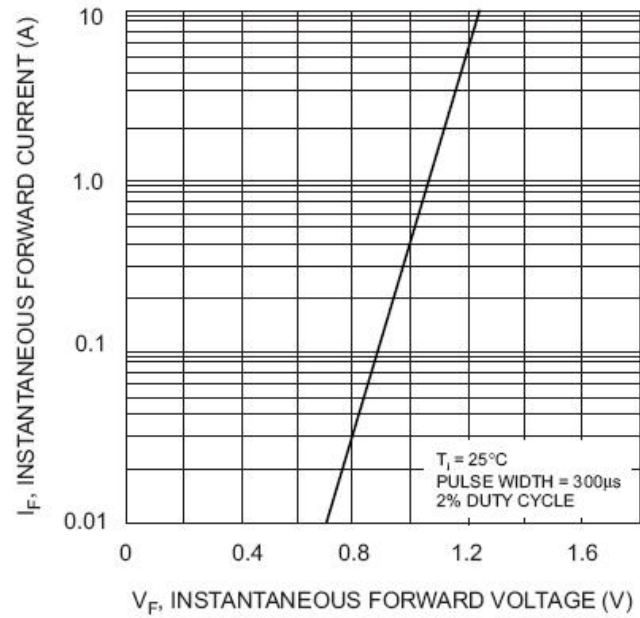


Fig. 2 Typical Forward Characteristics

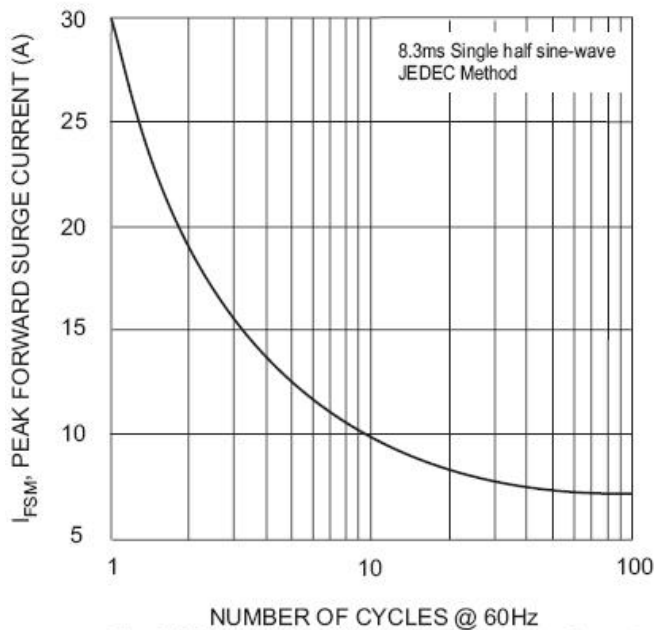


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

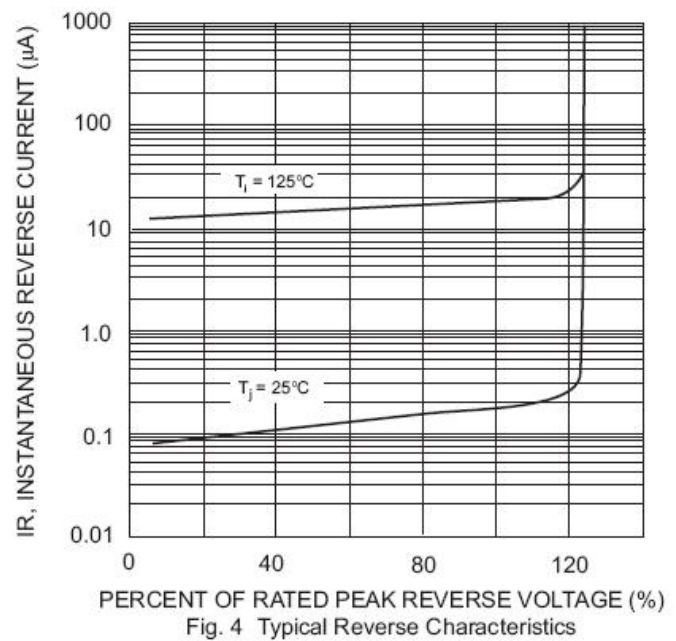
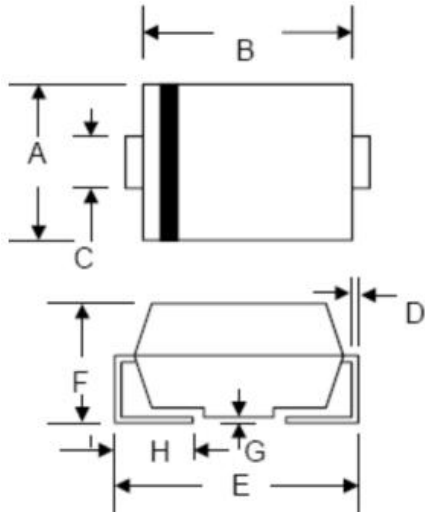


Fig. 4 Typical Reverse Characteristics

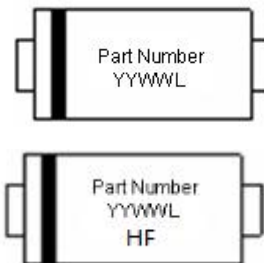
**Mechanical Dimensions SMA**


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.84	0.094	0.112
B	3.99	4.75	0.157	0.187
C	1.05	1.70	0.041	0.067
D	0.15	0.51	0.006	0.020
E	4.80	5.66	0.189	0.223
F	1.90	2.95	0.075	0.116
G	0.05	0.203	0.002	0.008
H	0.76	1.52	0.030	0.600

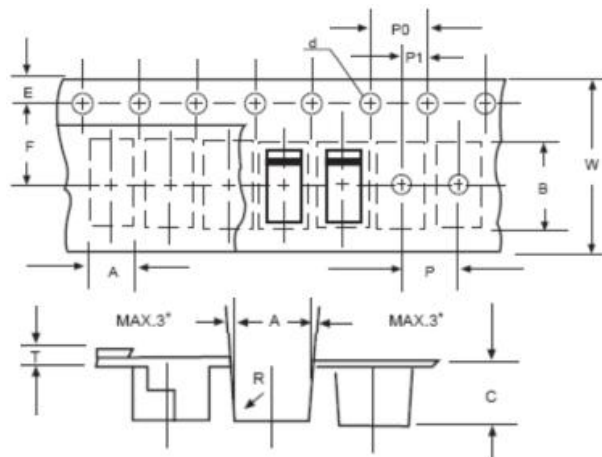
**Ordering Information**

Device	Package	Shipping
GS1A-GS1M	SMA	5000pcs / reel
GS1ATR-GS1MTR	SMA	5000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


First row: Part Number (GS1A, GS1B, GS1D, GS1G, GS1J, GS1K, GS1M)  
 Second row: YYWWL  
 HF is Halogen Free  
 YY is the manufacture year,  
 WW is the manufacture week code,  
 L is the wafer's Lot Number

**Carrier Tape Specification SMA**




SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

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