

# GS2A thru GS2M

Surface Mount General Purpose Rectifiers  
 Reverse Voltage 50V to 1000V Forward Current 2A

## Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C



DO-214AA(SMB)

## Mechanical Data

- Package: DO-214AA (SMB)
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Cathode line denotes the cathode end



## Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

## Absolute Maximum Ratings and Electrical Characteristics

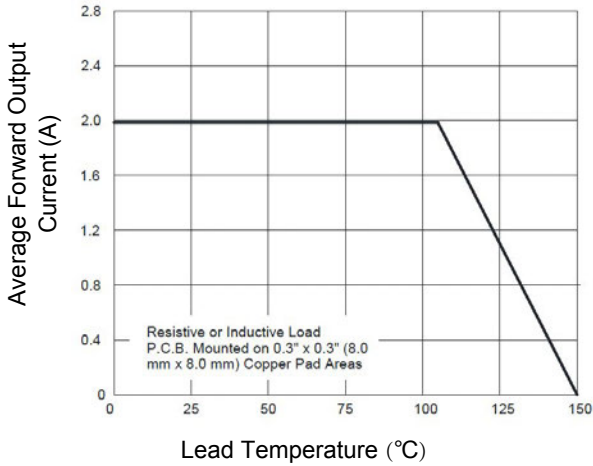
( $T_A=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	GS2A	GS2B	GS2D	GS2G	GS2J	GS2K	GS2M	Unit
Maximum Repetitive 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	1000	V
Average Rectified Output Current @ 60Hz Sine Wave, Resistance Load, $T_L$ (Fig.1)	$I_o$	2.0							A
Forward Surge Current (Non-repetitive) @ 60Hz Half-sine wave, 1 cycle, $T_J=25^\circ\text{C}$	$I_{FSM}$	60							A
Forward Surge Current (Non-repetitive) @ 1ms, square wave, 1 cycle, $T_J=25^\circ\text{C}$		100							
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$ $T_J=25^\circ\text{C}$	$I^2t$	14.94							$\text{A}^2\text{S}$
Maximum Instantaneous Forward Voltage at $I_F=2\text{A}$	$V_F$	1.1							V
Maximum DC Reverse Current at rated DC Blocking Voltage	$I_R$	@ $T_J=25^\circ\text{C}$							uA
		@ $T_J=125^\circ\text{C}$							
Typical Junction Capacitance @ 4V, 1MHz	$C_J$	12							pF
Typical Thermal Resistance, Junction to Ambient <sup>1</sup>	$R_{\theta JA}$	60							$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Lead <sup>1</sup>	$R_{\theta JL}$	20							
Typical Thermal Resistance, Junction to Case <sup>1</sup>	$R_{\theta JC}$	15							
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

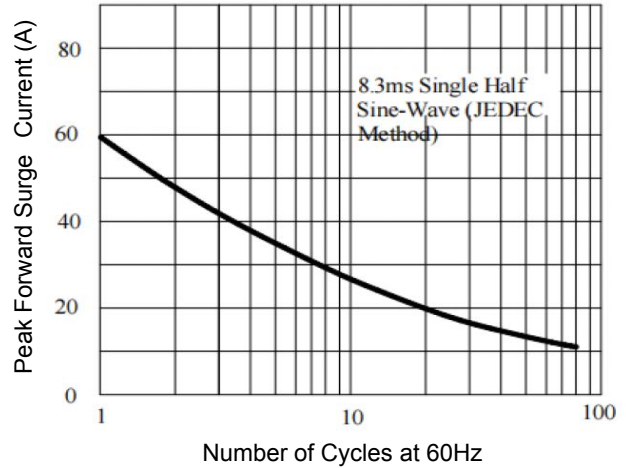
### Notes

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

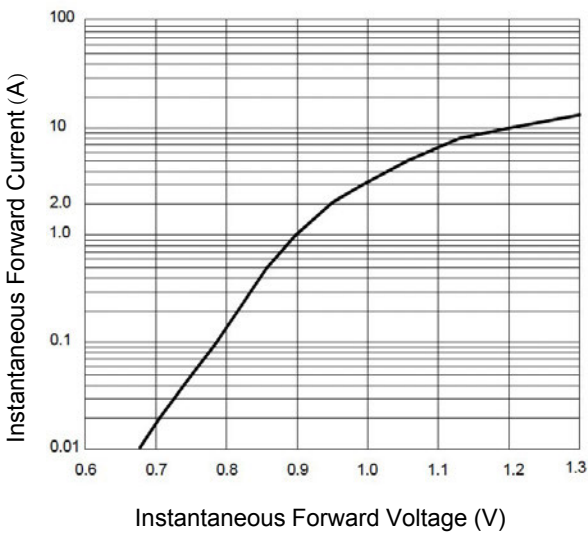
**Typical Electrical Characteristic Curves**



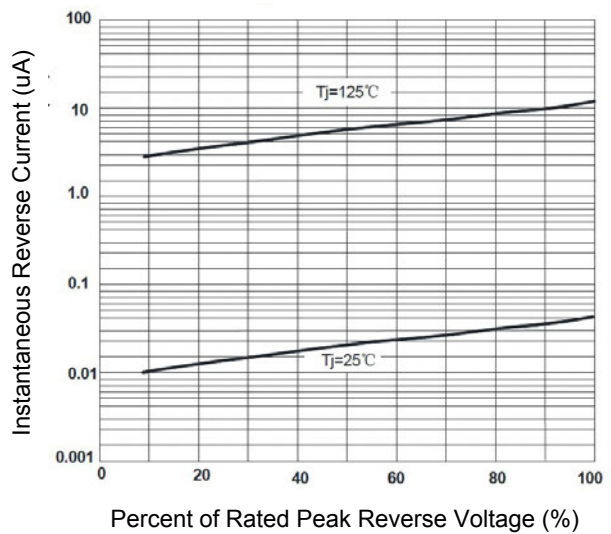
**Figure 1. Forward Current Derating Curve**



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



**Figure 3. Typical Instantaneous Forward Characteristics**

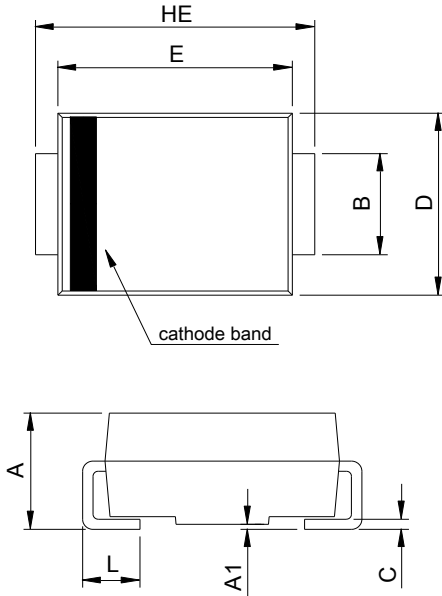


**Figure 4. Typical Reverse Leakage Characteristics**

# GS2A thru GS2M

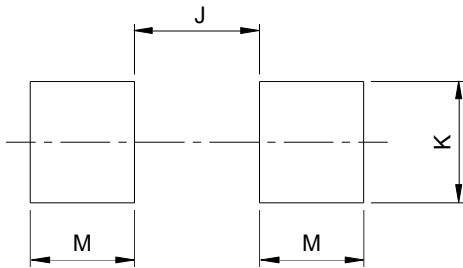
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## Package Outline Dimensions DO-214AA (SMB)



SMB (DO-214AA)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.95	2.65	0.077	0.104
A1	0.00	0.20	0.000	0.008
B	1.91	2.20	0.075	0.087
C	0.10	0.31	0.004	0.012
D	3.30	3.95	0.130	0.156
E	4.06	4.90	0.160	0.193
HE	5.00	5.60	0.197	0.220
L	0.76	1.60	0.030	0.063

## Recommended Pad Layout



Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.60	-	0.102
K	2.20	-	0.087	-
M	1.80	-	0.071	-

## Ordering information

Device	Package	Marking	Carrier	Quantity
GS2A	SMB	GS2A	Tape & Reel	3,000pcs / Reel
GS2B	SMB	GS2B	Tape & Reel	3,000pcs / Reel
GS2D	SMB	GS2D	Tape & Reel	3,000pcs / Reel
GS2G	SMB	GS2G	Tape & Reel	3,000pcs / Reel
GS2J	SMB	GS2J	Tape & Reel	3,000pcs / Reel
GS2K	SMB	GS2K	Tape & Reel	3,000pcs / Reel
GS2M	SMB	GS2M	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: [inquiry@goodarksemi.com](mailto:inquiry@goodarksemi.com)