GOOD-ARK
SEMICONDUCTOR

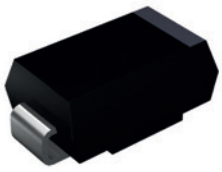
GS1A thru GS1M

Surface Mount General Purpose Rectifiers
Reverse Voltage 50V-1000V Forward Current 1.0A

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

RoHS COMPLIANT



DO-214AC (SMA)

Schematic Diagram

Mechanical Data

- Package: DO-214AC (SMA)
- 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

Applications

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

Maximum Ratings (T_A=25°C unless otherwise specified)

Parameters	Symbols	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	Units
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	1.0							A
Forward Surge Current (Non-Repetitive) @60Hz Half-Sine Wave, 1 cycle, T_J=25°C	I_{FSM}	40							A
Forward Surge Current (Non-Repetitive) @1ms, Square Wave, 1 cycle, T_J=25°C		60							
Current Squared Time @1ms ≤t≤8.3ms, T_J=25°C	I^2t	3.735							A^2s
Typical Thermal Resistance, Junction-Ambient[1]	$R_{\theta JA}$	70							°C/W
Typical Thermal Resistance, Junction-Case[1]	$R_{\theta JC}$	20							
Typical Thermal Resistance, Junction-Lead[1]	$R_{\theta JL}$	22							
Storage Temperature	T_{STG}	-55 to +150							°C
Junction Temperature	T_J	-55 to +150							°C

Note:

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas.

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Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameters	Symbols	Test Conditions	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	Units
Maximum Instantaneous Forward Voltage	V_F	I_{FM}=1.0A	1.0							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	T_J=25°C	5							μA
		T_J=125°C	50							
Typical Junction Capacitance	C_J	Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C	8							pF

Typical Characteristic Curves

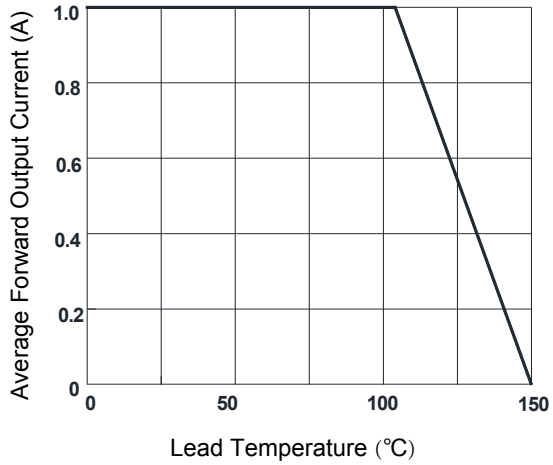

Figure 1. I_O-T_L Curve

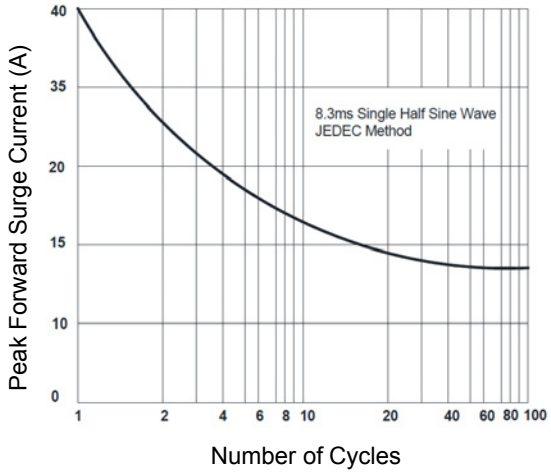

Figure 2. Surge Forward Current Capability

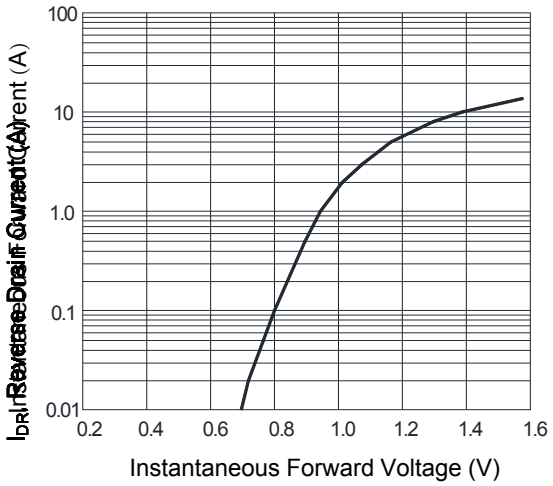

Figure 3. Typical Forward Voltage

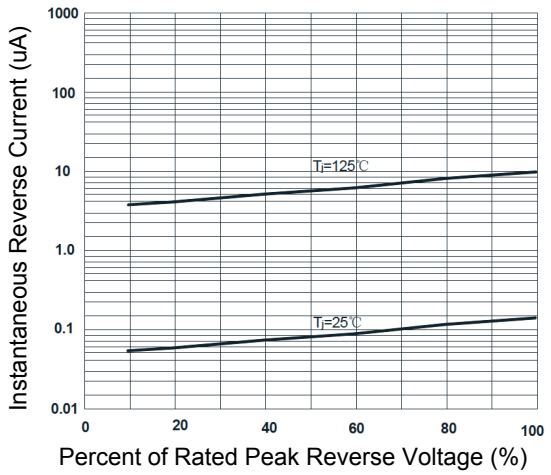

Figure 4. Typical Reverse Characteristics

GS1A thru GS1M

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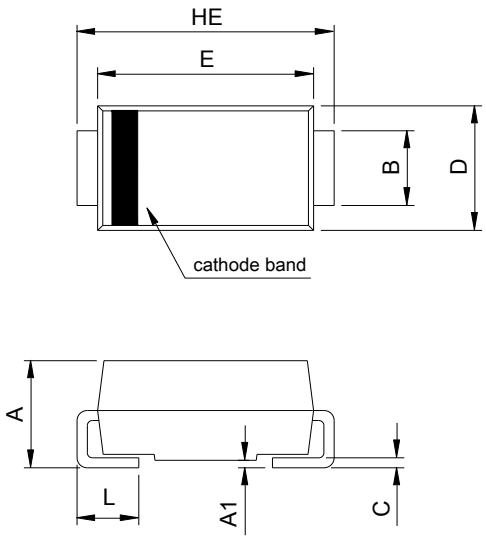
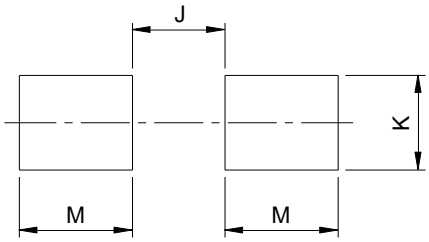
Package Outline Dimensions DO-214AC (SMA)



SMA (DO-214AC)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.90	2.30	0.075	0.091
A1	0.00	0.20	0.000	0.008
B	1.25	1.65	0.049	0.065
C	0.15	0.31	0.006	0.012
D	2.35	2.90	0.093	0.114
E	3.99	4.60	0.157	0.181
HE	4.80	5.30	0.189	0.209
L	0.76	1.52	0.030	0.060

Recommended Pad Layout



Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.20	-	0.087
K	1.72	-	0.068	-
M	2.00	-	0.079	-

Order Information

Device	Package	Marking	Carrier	Quantity
GS1A	DO-214AC (SMA)	GS1A	Tape & Reel	7,500 pcs / Reel
GS1B	DO-214AC (SMA)	GS1B	Tape & Reel	7,500 pcs / Reel
GS1D	DO-214AC (SMA)	GS1D	Tape & Reel	7,500 pcs / Reel
GS1G	DO-214AC (SMA)	GS1G	Tape & Reel	7,500 pcs / Reel
GS1J	DO-214AC (SMA)	GS1J	Tape & Reel	7,500 pcs / Reel
GS1K	DO-214AC (SMA)	GS1K	Tape & Reel	7,500 pcs / Reel
GS1M	DO-214AC (SMA)	GS1M	Tape & Reel	7,500 pcs / Reel