

GSUS1A thru GSUS1M

Surface Mount High Efficient Rectifiers
 Reverse Voltage 50V-1000V Forward Current 1.0A

Features

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- Fast switching for high efficiency
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



DO-214AC (SMA)



Schematic Diagram

Mechanical Data

- Package: DO-214AC (SMA)
- Molding compound, UL flammability classification rating 94V-0
Moisture sensitivity level: level 1, per J-STD-020
- Terminals: Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band

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

Parameter	Symbols	GS	GS	GS	GS	GS	GS	GS	GS	Units
		US1A	US1B	US1D	US1F	US1G	US1J	US1K	US1M	
Maximum Repetitive 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 _{F(AV)}	1								A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	30								A
Maximum Instantaneous Forward Voltage @ 1A ¹	V _F	1.0		1.3		1.7			V	
Maximum Reverse Current @ Rated V _R	T _J =25°C	5								μA
	T _J =100°C	50								
	T _J =125°C	150								
Maximum Reverse Recovery Time ²	t _{rr}	50					75			ns
Typical Junction Capacitance ³	C _J	20					15			pF
Typical Thermal Resistance	R _{θJA}	70								°C/W
Operating Junction Temperature Range	T _J	-55 to +150								°C
Storage Temperature Range	T _{STG}	-55 to +150								°C

Note:

1. Pulse test with PW=300μs, 1% duty cycle
2. Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.
3. Measured at 1 MHz and applied reverse voltage of 4.0V D.C.

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

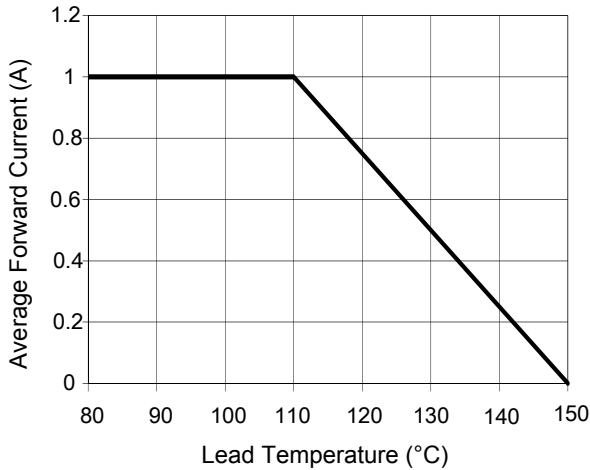


Figure 1. Maximum Average Forward Current Derating

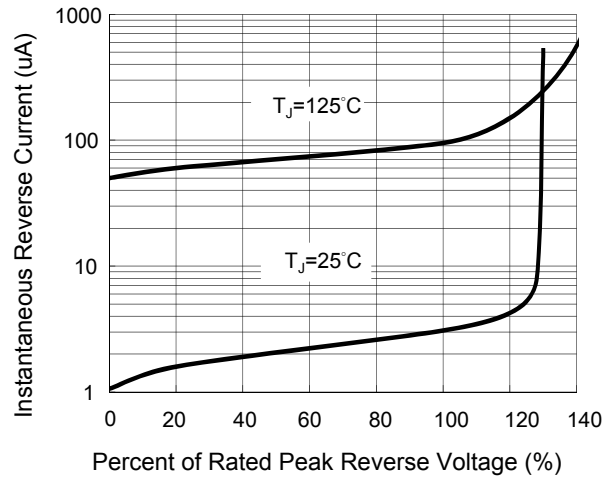


Figure 2. Typical Reverse Characteristics

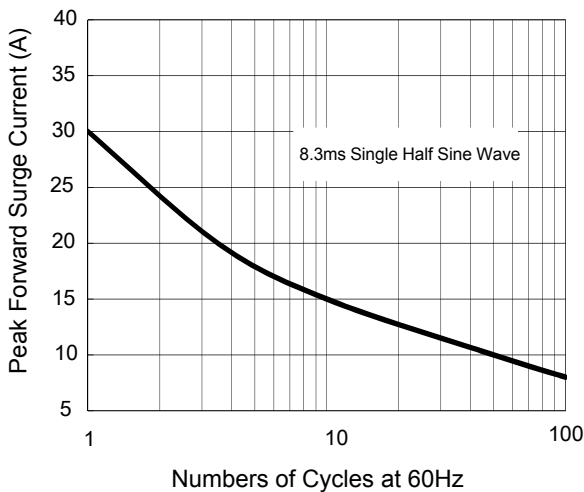


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current

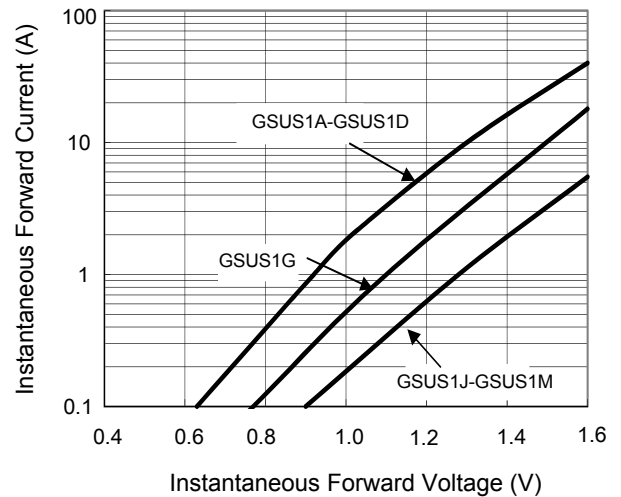


Figure 4. Typical Instantaneous Forward Characteristics

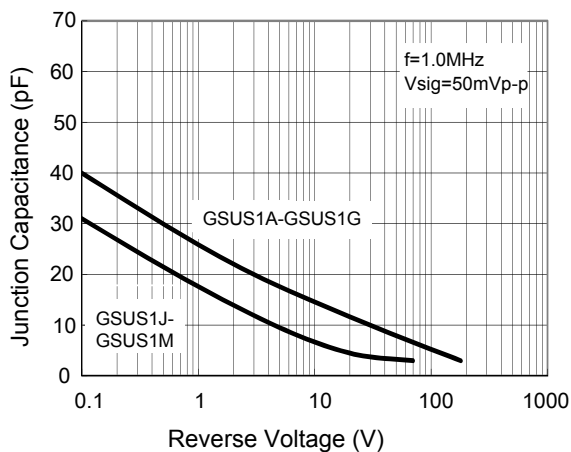
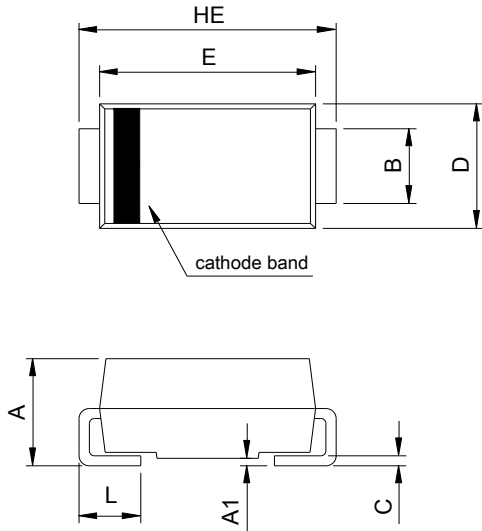


Figure 5. Typical Junction Capacitance

GSUS1A thru GSUS1M

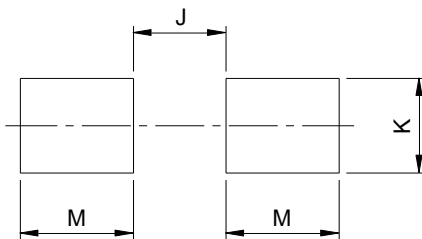
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Package Outline Dimensions DO-214AC (SMA)



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
GSUS1A	DO-214AC (SMA)	US1A	Tape & Reel	7,500 pcs / Reel
GSUS1B	DO-214AC (SMA)	US1B	Tape & Reel	7,500 pcs / Reel
GSUS1D	DO-214AC (SMA)	US1D	Tape & Reel	7,500 pcs / Reel
GSUS1F	DO-214AC (SMA)	US1F	Tape & Reel	7,500 pcs / Reel
GSUS1G	DO-214AC (SMA)	US1G	Tape & Reel	7,500 pcs / Reel
GSUS1J	DO-214AC (SMA)	US1J	Tape & Reel	7,500 pcs / Reel
GSUS1K	DO-214AC (SMA)	US1K	Tape & Reel	7,500 pcs / Reel
GSUS1M	DO-214AC (SMA)	US1M	Tape & Reel	7,500 pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com