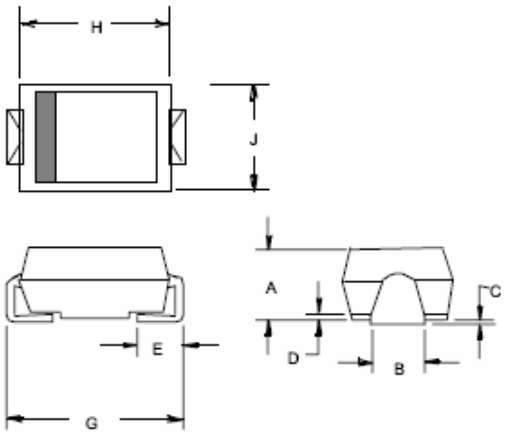
TAIWAN SEMICONDUCTOR

GS1A - GS1M

1.0 AMPS. Surface Mount Silicon Rectifiers

SMAE



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.079	.096	2.01	2.44	
B	.050	.075	1.27	1.90	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
G	.189	.208	4.80	5.30	
H	.157	.180	4.00	4.57	
J	.090	.115	2.29	2.92	

Features

- ✧ For surface mounted application
- ✧ Esay pick and place
- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High surge current capability
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds at terminals
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Green compound with suffix “G” on packing code & prefix “G” on datecode.

Mechanical Data

- ✧ Cases: SMAE Molded plastic
- ✧ Terminals: Lead free Finish
- ✧ Polarity: Indicated by cathode band.
- ✧ Weight: 0.073 grams

Marking Diagram

GS1X = Specific Device Code
G = Green Compound
Y = Year
M = Work Month

Maximum Ratings and Electrical Characteristics

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

Type Number	Symbol	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	Units
Maximum Recurrent 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
Maximum Average Forward Rectified Current @Ta(See Fig. 1)	$I_{(AV)}$	1.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	25							A
Maximum Instantaneous Forward Voltage (Note 1) IF= 1.0A @Ta=25°C	V_F	1.1							V
Maximum DC Reverse Current @ Ta=25°C @ Ta=125°C	I_R	1.0 50.0							uA
Typical Junction Capacitance(Note 3)	Cj	15							pF
Typical Thermal Resistance (Note 2)	$R\theta_{JA}$ $R\theta_{JL}$	80 28							°C/W
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

Notes: 1. Pulse Test with PW=300u sec, 1% Duty Cycle.
2. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.
3. Measured at f=1.0MHz, VR= 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (GS1A THOU GS1M)

FIG.1 Maximum Forward Current Derating Curve

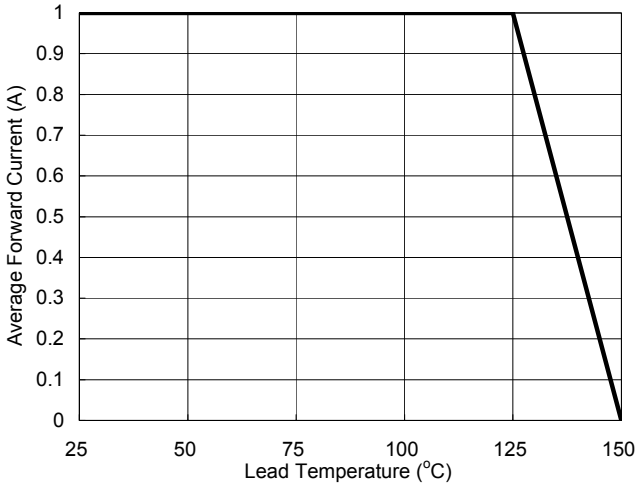


FIG 2 Maximum Forward Surge Current

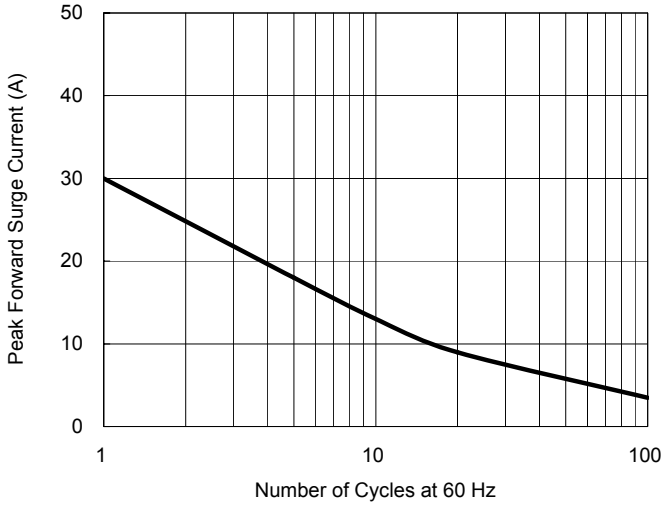


FIG 3 TYPICAL FORWARD CHARACTERISTICS

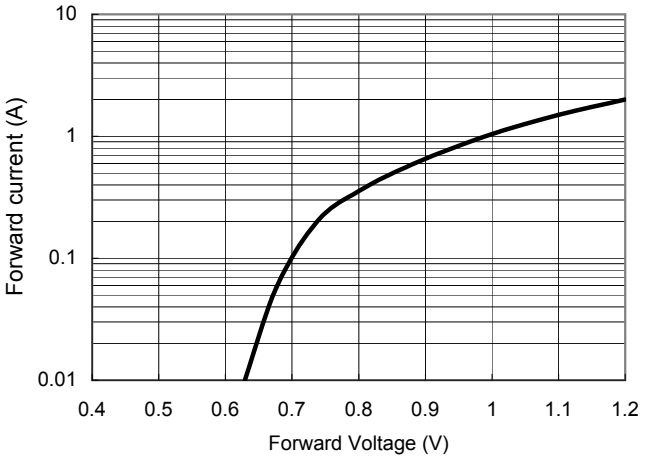


FIG 4 TYPICAL REVERSE LEAKAGE CHARACTERISTICS

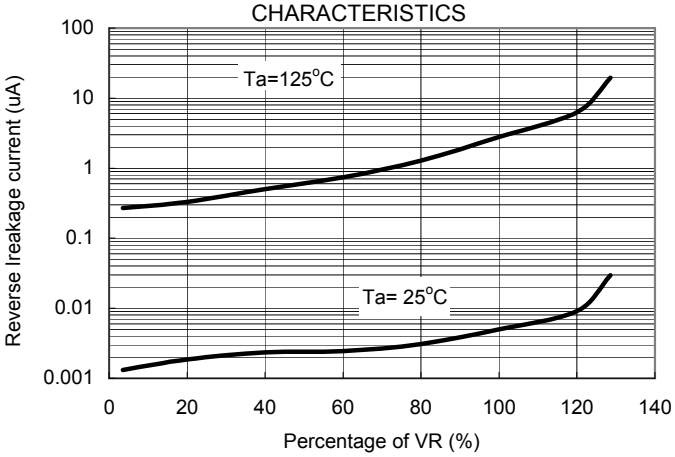


FIG 5 Typical Junction Capacitance