Pb **RoHS** COMPLIANCE

## Features

- ⬦ For surface mounted application
- ⬦ Glass passivated chip junction
- ⬦ Low forward voltage drop
- ⬦ High current capability
- ⬦ Easy pick and place
- ⬦ High surge current capability
- ⬦ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ⬦ High temperature soldering: 260℃/10 seconds at terminals
- ⬦ Green compound with suffix "G" on packing code & prefix "G" on datecode
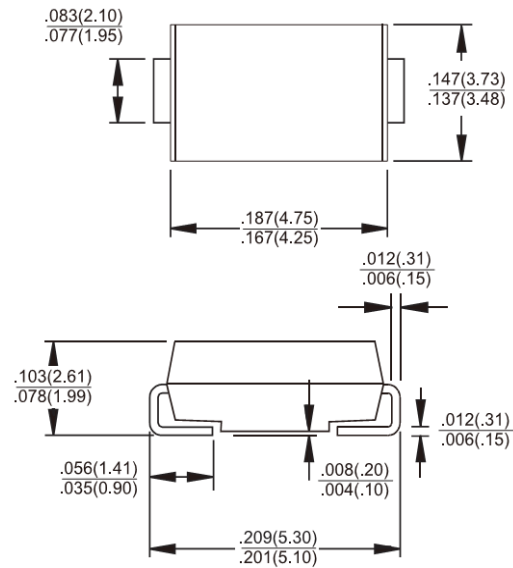
Mechanical Data

- ⬦ Case: Molded plastic
- ⬦ Terminal: Pure tin plated, lead free
- ⬦ Polarity: Indicated by cathode band
- ⬦ Packing: 12mm tape per EIA STD RS-481
- ⬦ Weight: 0.093 grams

.083(2.10) / .077(1.95)
.147(3.73) / .137(3.48)
.187(4.75) / .167(4.25)
.012(.31) / .006(.15)
.103(2.61) / .078(1.99)
.012(.31) / .006(.15)
.056(1.41) / .035(0.90)
.008(.20) / .004(.10)
.209(5.30) / .201(5.10)

Dimensions in inches and (millimeters)

Marking Diagram

S2X
GYM

S2X	= Specific Device Code
G	= Green Compound
Y	= Year
M	= Work Month

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ 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	S2A	S2B	S2D	S2G	S2J	S2K	S2M	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
Maximum Average Forward Rectified Current @T_L=100℃	$I_{F(AV)}$				2				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}				50				A
Maximum Instantaneous Forward Voltage (Note 1) @ 2 A	V_F				1.15				V
Maximum Reverse Current @ Rated VR T_A=25 ℃ T_A=125 ℃	I_R				1 / 125				uA
Maximum Reverse Recovery Time (Note 2)	Trr				1.5				uS
Typical Junction Capacitance (Note 3)	Cj				30				pF
Typical Thermal Resistance	$R_{\theta jA}$ / $R_{\theta jL}$				53 / 16				℃/W
Operating Temperature Range	T_J				- 55 to + 150				℃
Storage Temperature Range	T_{STG}				- 55 to + 150				℃

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (S2A THRU S2M)
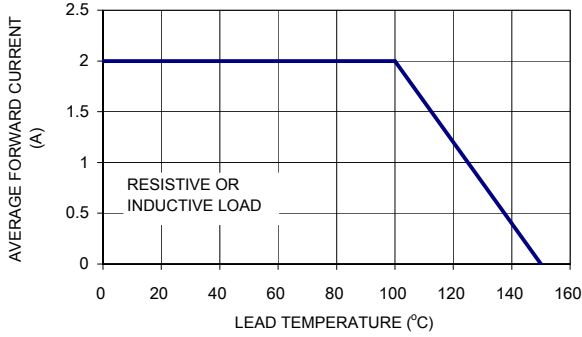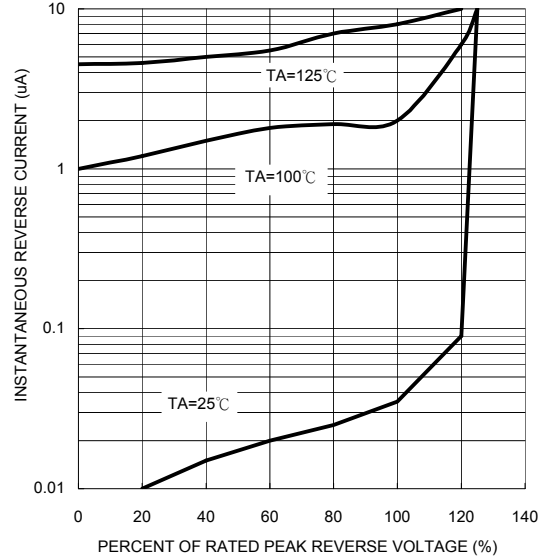
FIG.1 FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD CURRENT (A)

RESISTIVE OR INDUCTIVE LOAD

LEAD TEMPERATURE (°C)

FIG. 2 TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT (uA)

TA=125℃

TA=100℃

TA=25℃

PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

PEAK FORWARD SURGE URRENT (A)

8.3mS Single Half Sine Wave JEDEC Method

NUMBER OF CYCLES AT 60 Hz
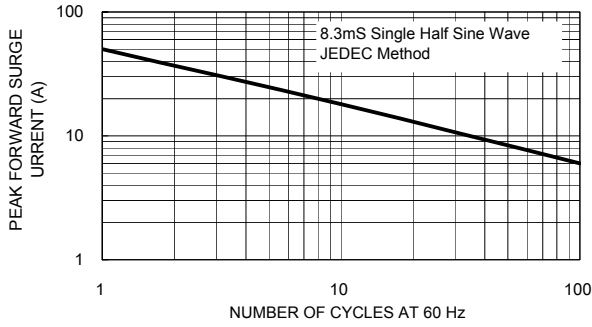
FIG. 5 TYPICAL FORWARD CHARACTERISRICS

INSTANTANEOUS FORWARD CURRENT (A)

TA=25℃
Pulse Width=300us
1% Duty Cycle

FORWARD VOLTAGE (V)

FIG. 4 TYPICAL JUNCTION CAPACITANCE

CAPACITANCE (pF)

TA=25℃
f=1.0MHz
Vsig=50mVp-p

REVERSE VOLTAGE (V)
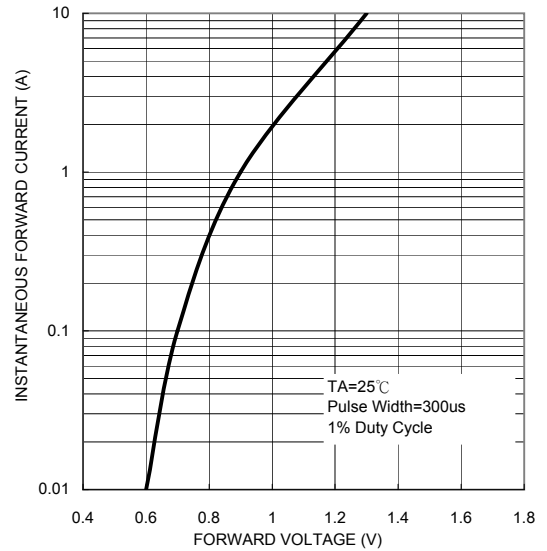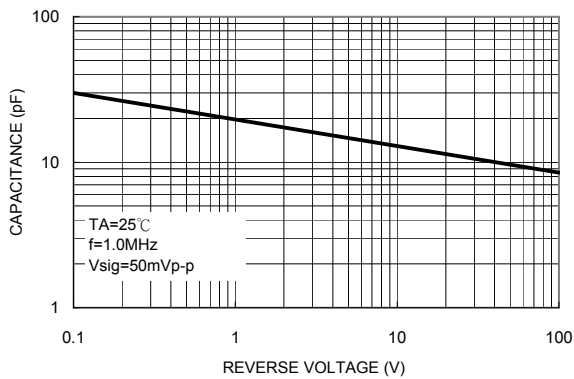
FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

50Ω NONINDUCTIVE   10Ω NONINDUCTIVE

DUT

(+) 50Vdc (approx) (-)

1Ω NON INDUCTIVE

OSCILLOSCOPE (NOTE 1)

PULSE GENERATOR (NOTE 2)

(-)

(+)

+0.5A
0
-0.25A
-1.0A

trr

1cm

SET TIME BASE FOR 5/ 10ns/ cm

NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Sourse Impedance= 50 ohms