

## Features

- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Glass Passivated Chip Junction
- High Junction Temperature Capability
- Fully Automotive Qualified to AEC-Q101

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value		Unit
		GS1GQ-L	GS1JQ-L	
Peak Repetitive Reverse Voltage	$V_{RRM}$	400	600	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
RMS Reverse Voltage	$V_{RMS}$	280	420	V
Average Rectified Forward Current @ $T_L=140^{\circ}\text{C}$	$I_{F(AV)}$	1		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	40		A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		80		
Current Squared Time @ $1\text{ms}\leq t\leq 8.3\text{ms}$	$I^2t$	6.64		$\text{A}^2\text{s}$

## Marking Code

Part Number	Marking Code
GS1GQ-L	GS1G
GS1JQ-L	GS1J

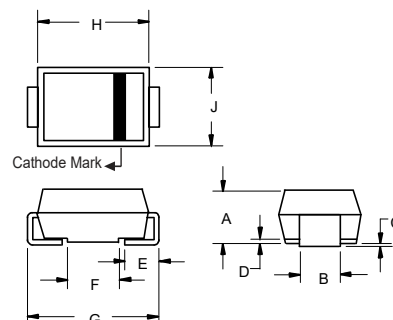
## Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	<p>XXXX = Marking Code YYWW = Date Code</p>	
2	Anode		

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

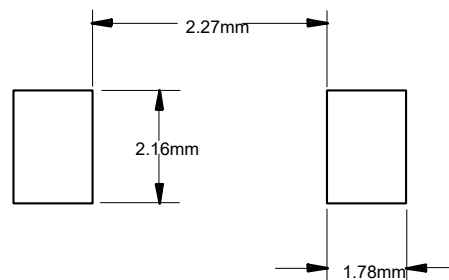
# 1 Amp General Purpose Rectifier 400 to 600 Volts

## SMA (DO-214AC)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.075	0.096	1.90	2.44	
B	0.050	0.064	1.27	1.63	
C	0.002	0.008	0.051	0.203	
D	---	0.020	---	0.51	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.189	0.220	4.80	5.59	
H	0.157	0.187	4.00	4.75	
J	0.090	0.115	2.25	2.92	

## SUGGESTED SOLDER PAD LAYOUT



## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		175	°C
$T_{stg}$	Storage Temperature Range		-55		175	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		30		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		80		°C/W

Note:

1. Mounted on P.C.B. with 5mm\*5mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=1A; T_J=25^{\circ}C$			1.1	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 50	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		15		pF
Reverse Recovery Time	$t_{rr}$	$I_F=0.5A; I_R=1.0A; I_{rr}=0.25A; T_J=25^{\circ}C$		2		$\mu S$

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

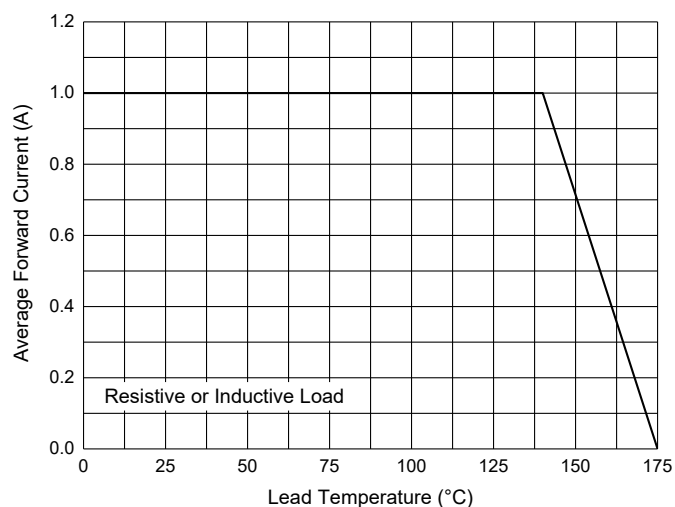


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

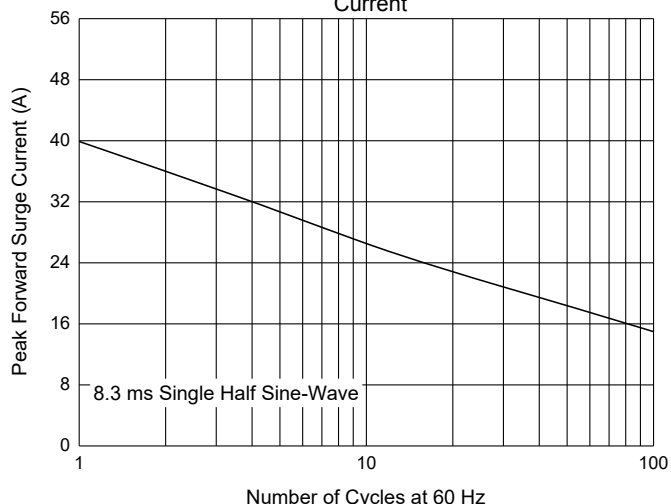


Fig. 3 - Typical Forward Characteristics

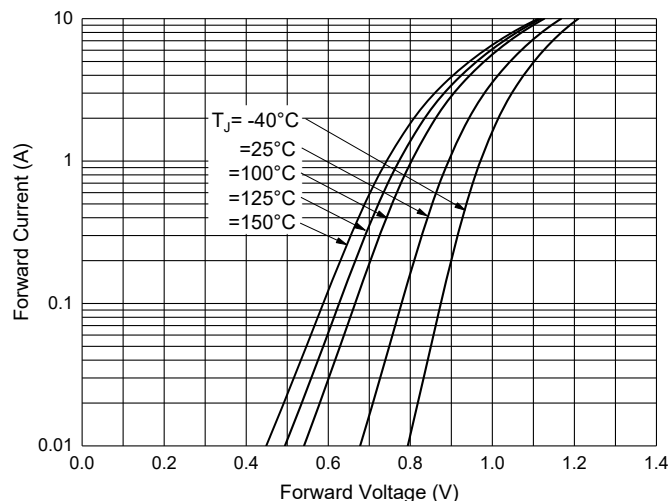


Fig. 4 - Typical Reverse Leakage Characteristics

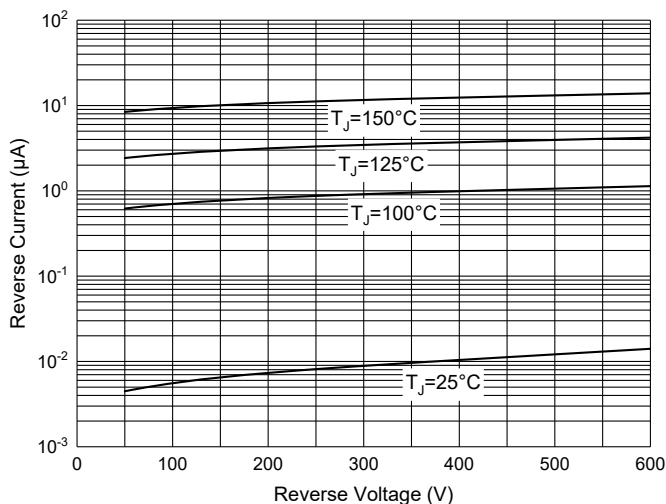
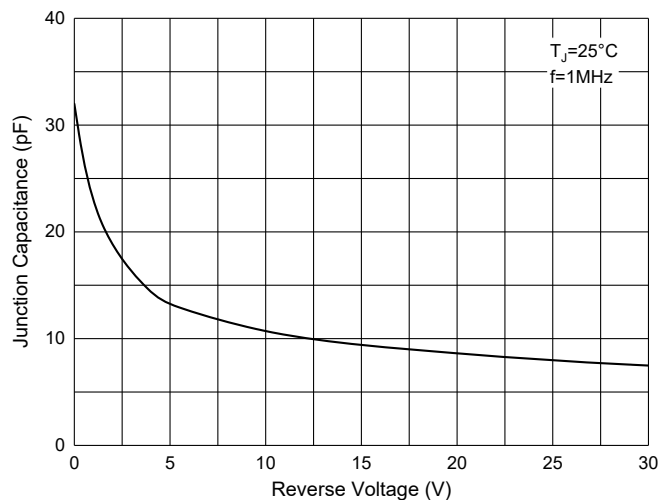


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
GS1GQ-LTP ~ GS1JQ-LTP	Tape&Reel:7.5Kpcs/Reel

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