

GSH1A thru GSH1M

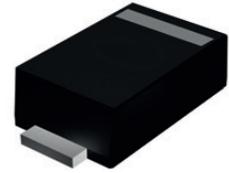
Ultrafast Recovery Rectifiers
 Reverse Voltage 50V to 1000V Forward Current 1A

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C



RoHS
COMPLIANT



SOD-123FL

Applications

For use in highly efficient switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer and telecommunication.

Mechanical Data

- Package: SOD-123FL
Molding compound meets UL 94V-0 flammability rating
- Terminals: Tin plated leads, solderable per J-STD-002
- Polarity: Cathode line denotes the cathode end

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

Parameter	Symbol	GS H1A	GS H1B	GS H1D	GS H1G	GS H1J	GS H1K	GS H1M	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
Average Rectified Output Current @ 60Hz Half-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}	30							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 ² t	3.735							A ² S
Typical Thermal Resistance, Junction to Ambient ¹	R _{θJA}	75							°C/W
Typical Thermal Resistance, Junction to Lead ¹	R _{θJL}	25							°C/W
Typical Thermal Resistance, Junction to Case ¹	R _{θJC}	22							°C/W
Junction Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C

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

Parameter	Symbol	Conditions	GS H1A	GS H1B	GS H1D	GS H1G	GS H1J	GS H1K	GS H1M	Unit
Maximum Instantaneous Forward Voltage	V _F	I _{FM} =1.0A	1.0		1.3		1.7			V
Maximum Reverse Recovery Time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	50				75			nS
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	T _J =25°C	5							μA
		T _J =125°C	100							
Typical Junction Capacitance	C _J	Measured at 1MHz and Applied Reverse Voltage of 4.0V.D.C	17		10		7			pF

Note:

1. Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm x 3mm copper pad areas.

Typical Characteristics Curves

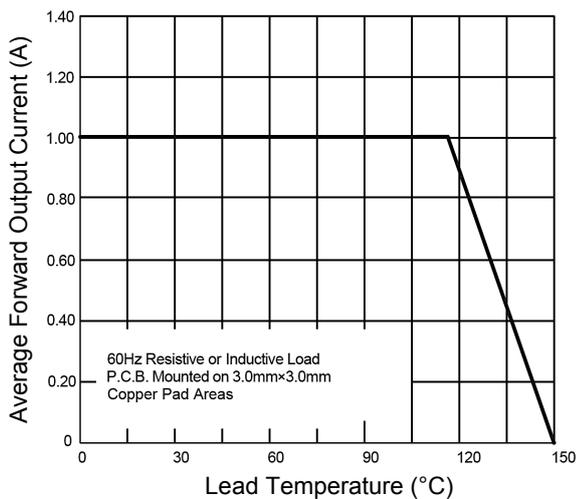


Figure 1. I_O-T_L Curve

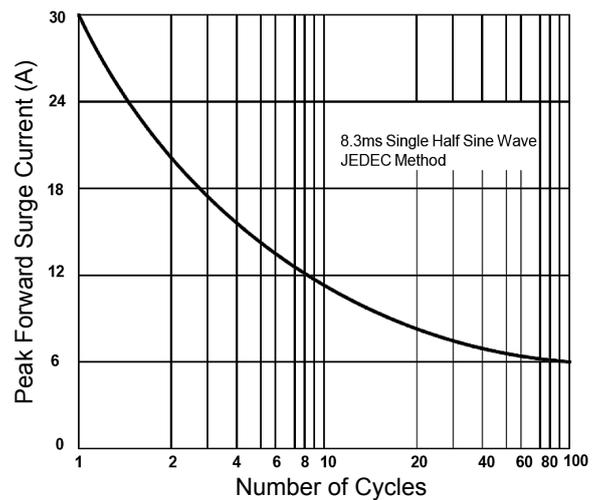


Figure 2. Forward Surge Current Capability

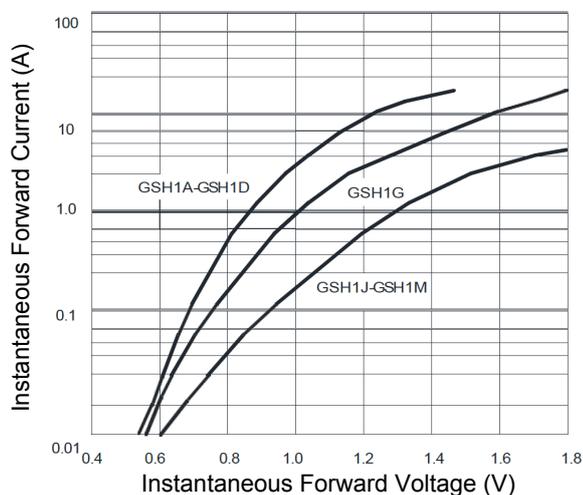


Figure 3. Typical Forward Characteristics

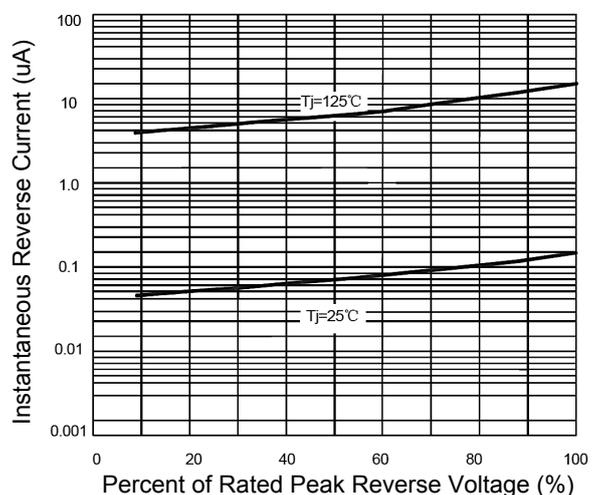
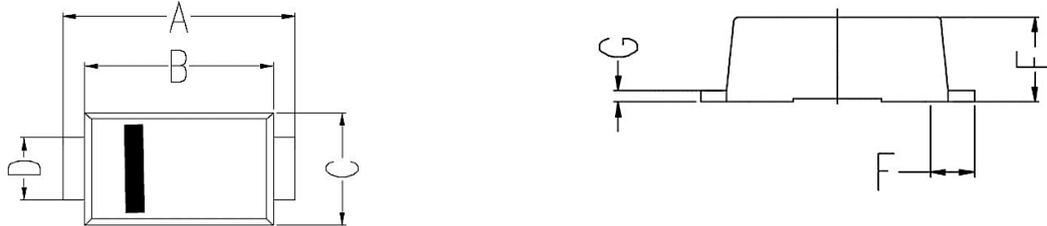


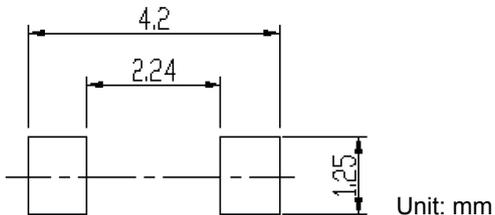
Figure 4. Typical Reverse Characteristics

Package Outline Dimensions (SOD-123FL)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.50	3.90	0.138	0.154
B	2.90	3.10	0.114	0.122
C	1.70	2.00	0.067	0.079
D	0.85	1.05	0.033	0.041
E	1.05	1.25	0.041	0.049
F	0.43	0.83	0.017	0.033
G	0.10	0.25	0.004	0.010

Recommended Pad Layout



Order Information

Device	Package	Marking	Packaging	SPQ
GSH1A	SOD-123FL	H1A	Tape & Reel	3,000 Pcs / Reel
GSH1B	SOD-123FL	H1B	Tape & Reel	3,000 Pcs / Reel
GSH1D	SOD-123FL	H1D	Tape & Reel	3,000 Pcs / Reel
GSH1G	SOD-123FL	H1G	Tape & Reel	3,000 Pcs / Reel
GSH1J	SOD-123FL	H1J	Tape & Reel	3,000 Pcs / Reel
GSH1K	SOD-123FL	H1K	Tape & Reel	3,000 Pcs / Reel
GSH1M	SOD-123FL	H1M	Tape & Reel	3,000 Pcs / Reel