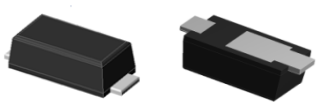
GOOD-ARK SEMICONDUCTOR

GSPF1 thru GSPF7

Surface Mount Glass Passivated Fast Recovery Rectifier
Reverse Voltage 50-1000V Forward Current 1A

Features

- Glass passivated fast recovery rectifiers
- Heatsink structure
- Low profile, typical thickness 0.8mm
- Low forward voltage drop
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260°C, 10s



iSGA
(SOD-123HS)

Pb RoHS COMPLIANT

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

Parameter	Symbol	GS PF1	GS PF2	GS PF3	GS PF4	GS PF5	GS PF6	GS PF7	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	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30							A
Rating for Fusing(t＜8.3ms)	I^2t	3.8							A^2sec
Operating Junction And Storage Temperature Range	T_J, T_{STG}	- 55 to + 150							°C

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

Parameter	Test Conditions	Symbol	GS PF1	GS PF2	GS PF3	GS PF4	GS PF5	GS PF6	GS PF7	Unit
Minimum Breakdown Voltage	T_A=25℃, I_R=100uA	V_{BR}	400				600	1000		V
Maximum Instantaneous Forward Voltage	I_F=1 A,T_A=25°C	V_F	1.3							V
	I_F=1 A,T_A=125°C		0.98							
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A=25℃	I_R	5.0							uA
	T_A=125℃		50							
Maximum Reverse Recovery Time	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	t_{rr}	150				250			nS
Typical Junction Capacitance	4.0 V, 1 MHz	C_J	7.5							pF
Typical Thermal Resistance	Junction to Ambient	$R_{\theta JA}$[1]	63							℃/W
	Juntion to Case	$R_{\theta JC}$[1]	9							
	Juntion to Lead	$R_{\theta JL}$[2]	39							

Note:1) The thermal resistance from junction to ambient or lead, mounted on P.C.B with 5× 5mm copper pads,2 OZ,FR4 PCB

2) The thermal resistance from junction to case, mounted on P.C.B with recommended copper pads,2 OZ,FR4 PCB

Typical Electrical Characteristic Curves

(T_A=25°C unless otherwise noted)

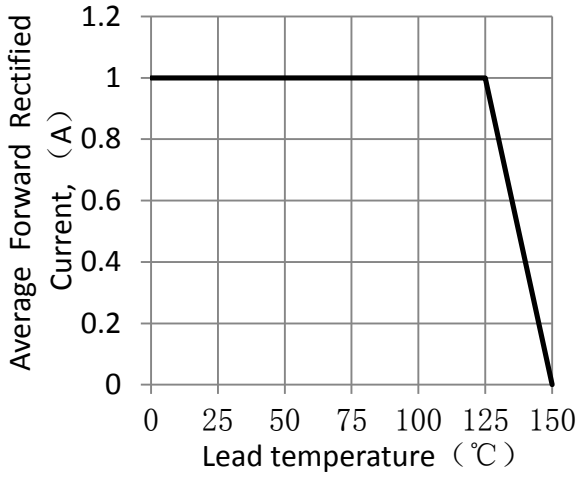


Figure 1.Forward Current Derating Curve

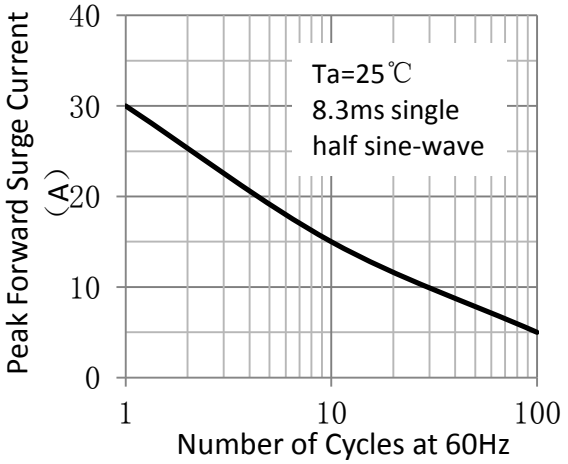


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

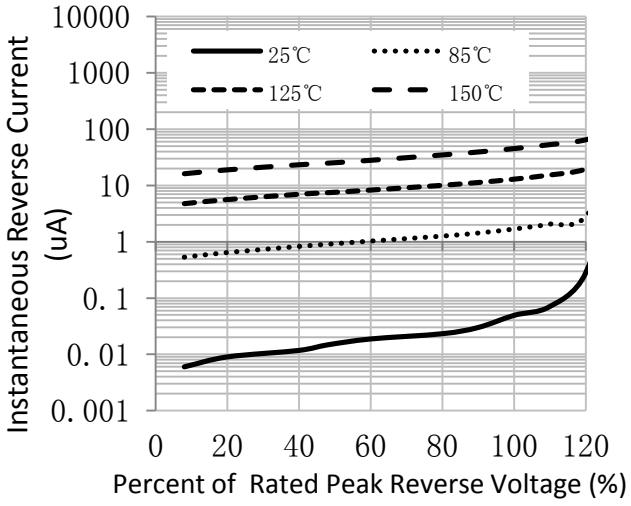


Figure 3. Typical Reverse Characteristics

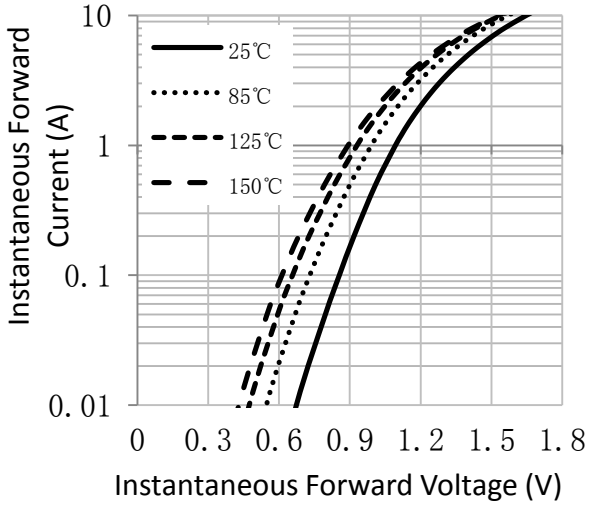


Figure 4. Typical Instantaneous Forward Characteristics

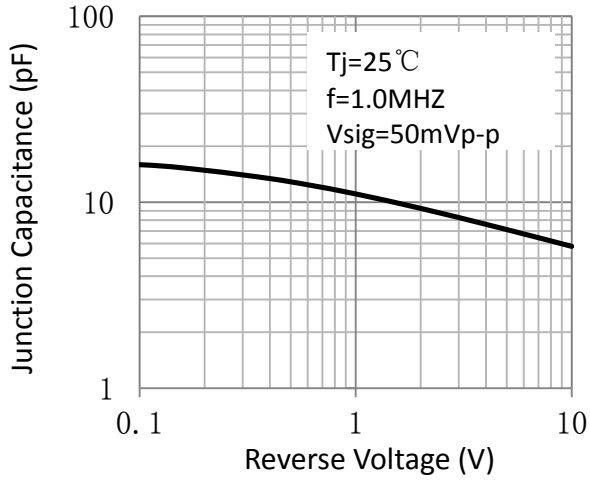


Figure 5. Typical Junction Capacitance

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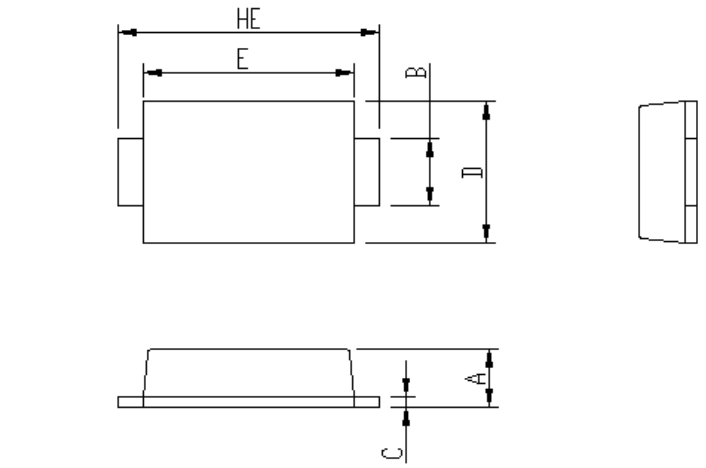
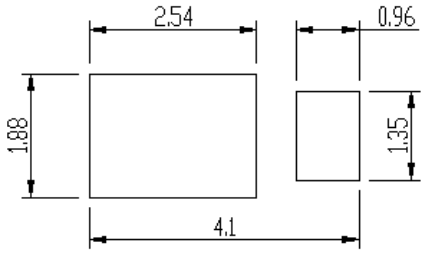
Package Outline Dimensions

iSGA
(SOD-123HS)



Package	iSGA	
Unit:mm	MIN	MAX
A	0.75	0.90
B	0.85	1.05
B1	0.85	1.05
C	0.1	0.25
D	1.9	2.1
E	2.9	3.1
L1	2.0	2.45
L2	0.4	0.85
L3	1.3	1.7
HE	3.5	3.9

Soldering footprint



Packing Information

Packing Quantities:

Reel size	Quantity/reel	Quantity/inner Box	Quantity/Carton
7"	3K	30K	120K

Packing Tape Specification