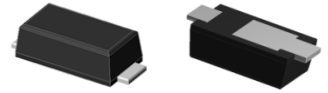


SPF151 thru SPF157

Surface Mount Glass Passivated Fast Recovery Rectifier Reverse
 Voltage 50-1000V Forward Current 1.5A

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, 10 s



ISGA
(SOD-123HS)



Typical Applications

For use of general purpose rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.

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

Parameter	Symbol	SPF 151	SPF 152	SPF 153	SPF 154	SPF 155	SPF 156	SPF 157	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)}	1.5							A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	52							A
Rating for Fusing(t<8.3ms)	I ² t	11.3							A ² sec
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	SPF 151	SPF 152	SPF 153	SPF 154	SPF 155	SPF 156	SPF 157	Unit
Minimum Breakdown Voltage	T _A =25°C, I _R =100uA	V _{BR}	400				600	1000		V
Maximum Instantaneous Forward Voltage	I _F =1.5 A, T _A =25°C	V _F	1.3							
Maximum DC Reverse Current @ Rated DC Blocking Voltage	T _A =25°C T _A =125°C	I _R	5.0				100		μA	
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	Juntion to Ambient	R _{θJA} ¹⁾	60							°C/W
	Juntion to Lead	R _{θJL} ¹⁾	10							
	Juntion to Case	R _{θJC} ²⁾	35							

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

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

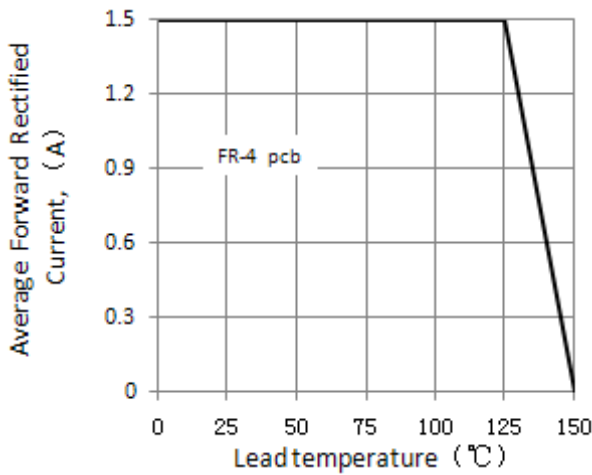


Figure 1. Forward Current Derating Curve

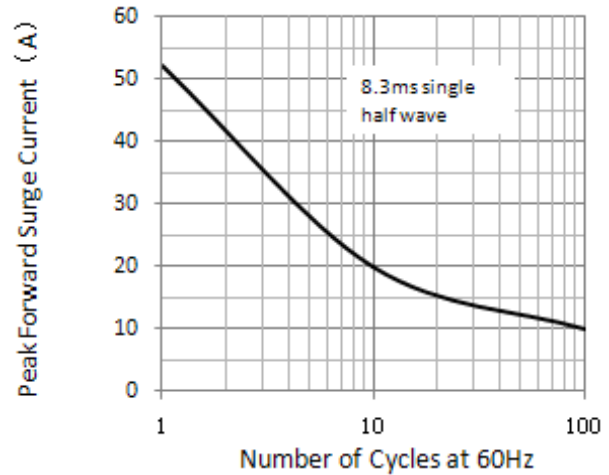


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

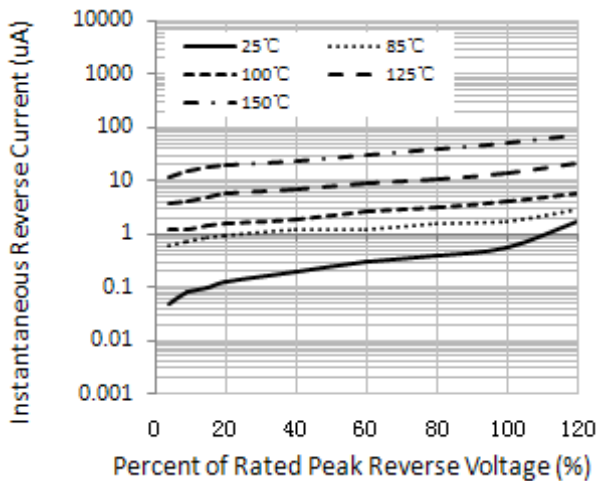


Figure 3. Typical Reverse Characteristics

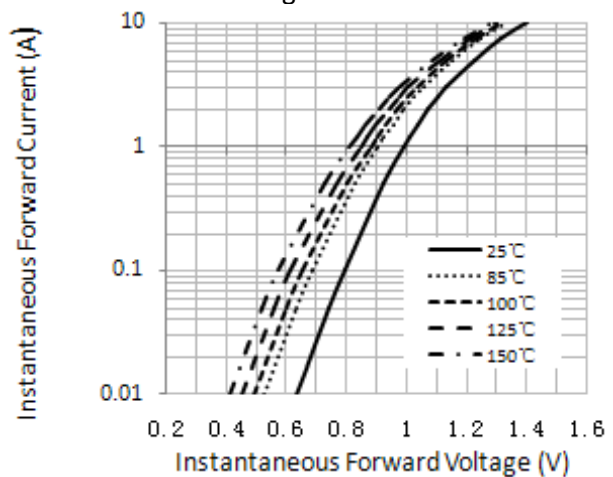


Figure 4. Typical Instantaneous Forward Characteristics

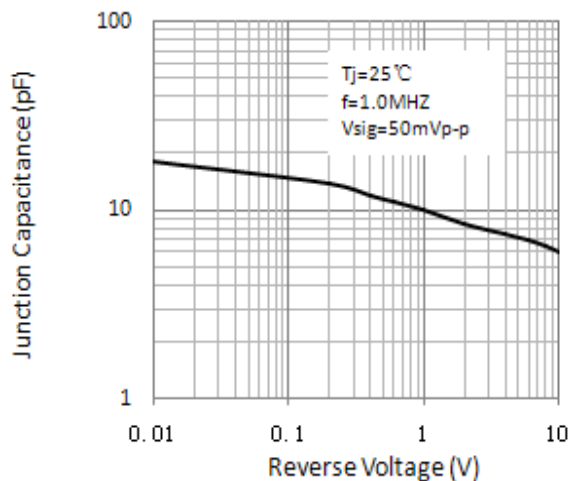
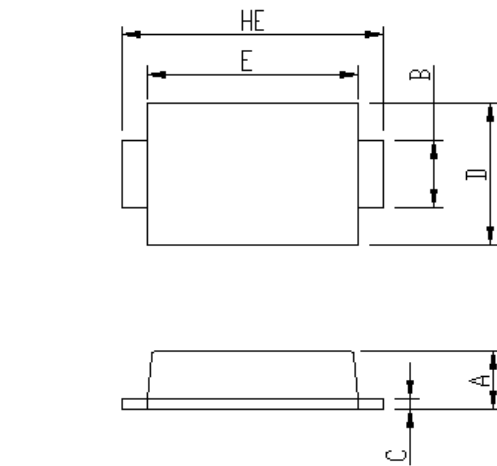


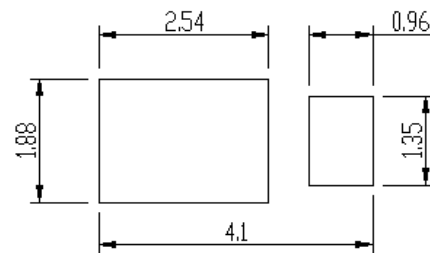
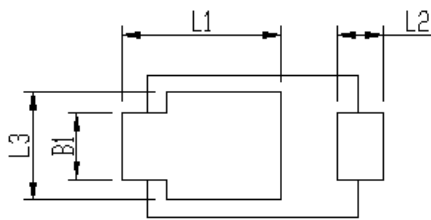
Figure 5. Typical Junction Capacitance

Package Outline Dimensions



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

