

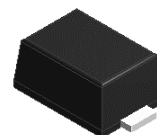
1A,50-1000V High Efficient Rectifiers

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



RoHS
COMPLIANT



eSGP(SOD-323F)

Applications

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

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)									
Parameter	Symbol	SGP1H	SGP2H	SGP3H	SGP4H	SGP5H	SGP6H	SGP7H	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							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	25							A
Operating junction temperature range	T _J	-55 to +150							°C
Storage temperature range	T _{STG}	-55 to +150							°C

Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R _{θJA}	120	°C /W
Thermal Resistance, Junction to Case	R _{θJC}	40	°C /W
Thermal Resistance, Junction to Lead	R _{θJL}	40	°C /W

Electrical Specifications (T _A =25°C unless otherwise noted)											
Parameter	Symbol	Test Conditions	SGP1H	SGP2H	SGP3H	SGP4H	SGP5H	SGP6H	SGP7H	Unit	
Forward Drop Voltage	V _F	I _F =1A	1.3				1.7				V
Reverse leakage current @V _R	I _R	T _J =25°C	5							uA	
		T _J =125°C	100								
Typical junction capacitance	C _J	4.0 V 1 MHz	14							pF	
Maximum reverse recovery time	trr	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	50				75				nS

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

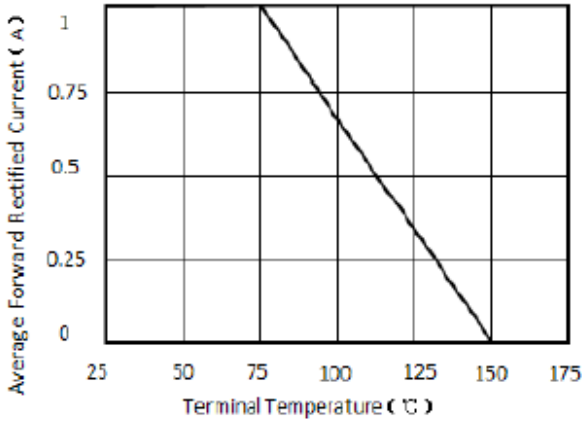


Figure 1. Forward Current Derating Curve

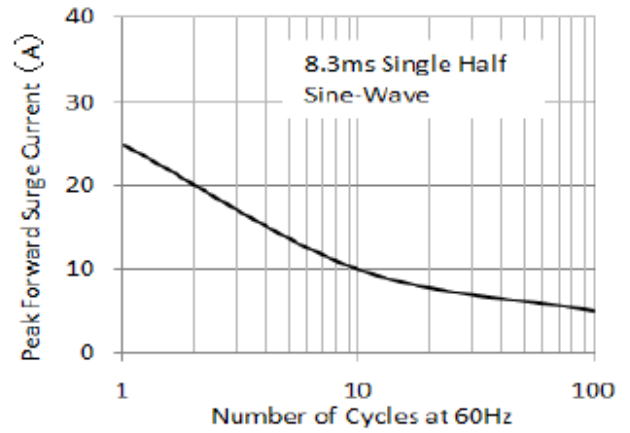


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

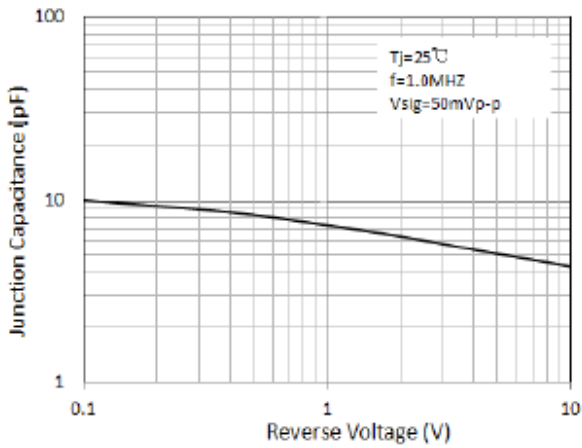


Figure 3. Typical Junction Capacitance

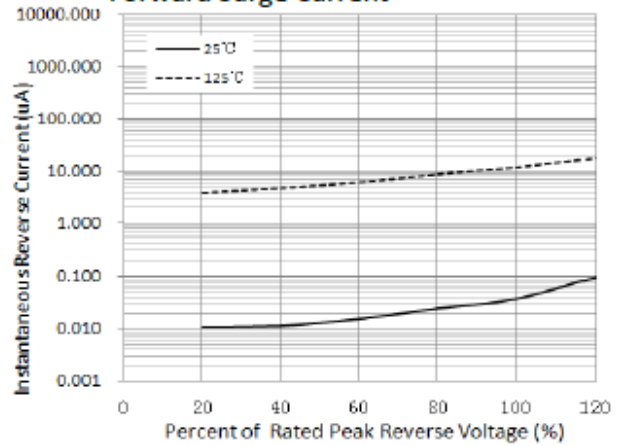
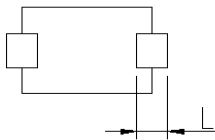
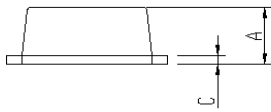
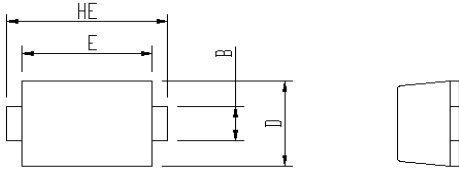


Figure 4. Typical Reverse Characteristics

Package Outline Dimensions

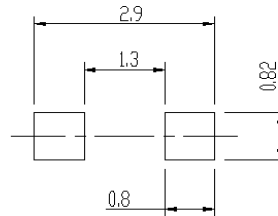
in inches (millimeters)

eSGP (SOD-323F)



Package	Unit:mm		Unit:inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
B	0.5	0.7	0.020	0.028
C	0.1	0.25	0.004	0.010
D	1.4	1.6	0.055	0.063
E	2.0	2.2	0.079	0.087
L	0.35	0.65	0.014	0.026
HE	2.4	2.8	0.094	0.110

Soldering footprint



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.16	Modify document format

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