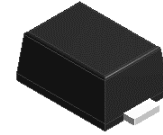


1A,20V Schottky Barrier Rectifier

Features

- Low leakage current
- Schottky barrier diode
- Low forward voltage drop
- 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



eSGP(SOD-323F)

Applications

For use in low voltage, high frequency inverters, free-wheeling and polarity protection application.

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)			
Parameter	Symbol	SGP0120SL	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	20	V
Maximum RMS voltage	V _{RMS}	14	V
Maximum DC blocking voltage	V _{DC}	20	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}	30	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($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	SGP0120SL	Unit
Forward Drop Voltage	V_F	$I_F=1\text{A}$	0.45	V
Reverse leakage current @ V_R	I_R	$T_J=25^{\circ}\text{C}$	80	μA
Typical junction capacitance	C_J	4.0 V 1 MHz	54	pF

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)

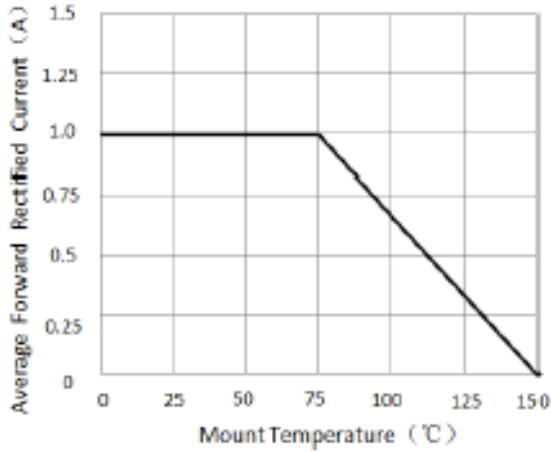


Figure 1. Forward Current Derating Curve

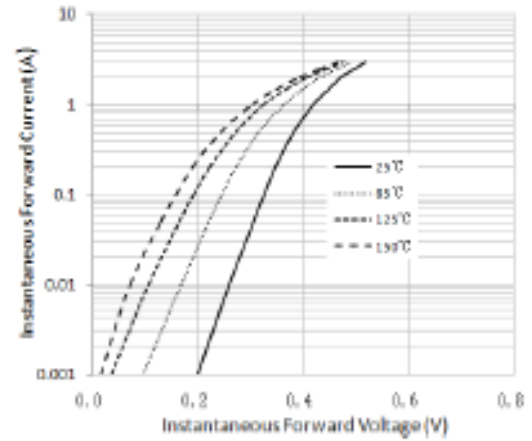


Figure 2. Typical Instantaneous Forward Characteristics

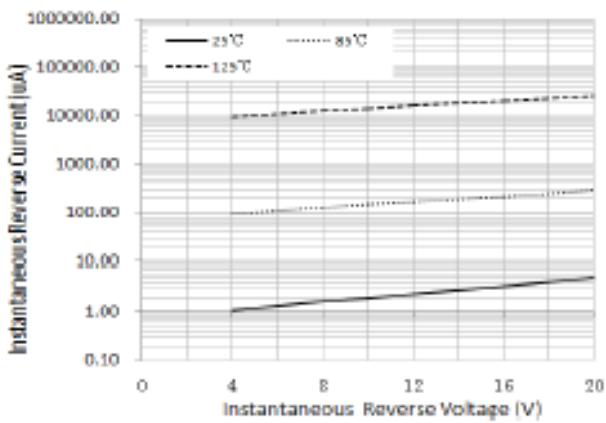


Figure 3. Typical Reverse Characteristics

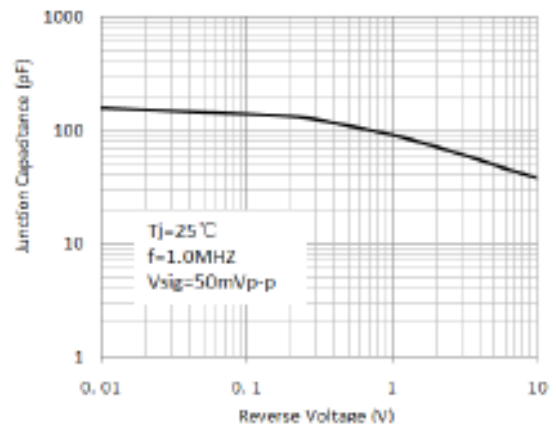


Figure 4. Typical Junction Capacitance

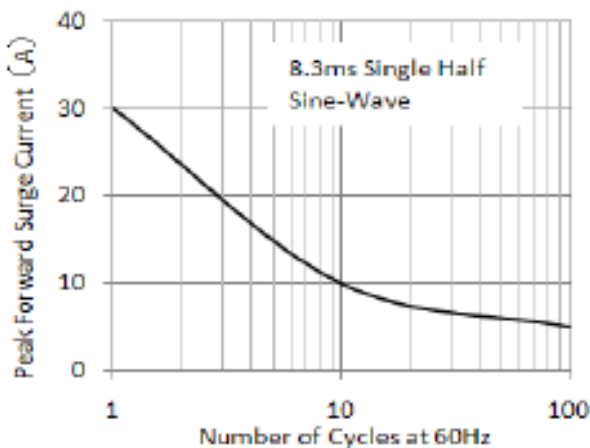
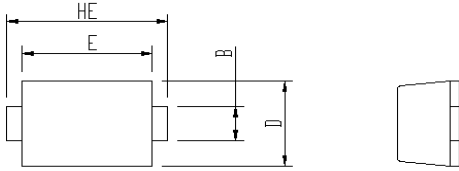


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

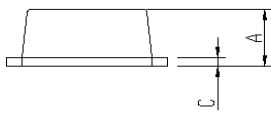
Package Outline Dimensions

in inches (millimeters)

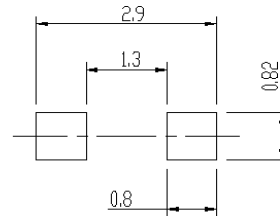
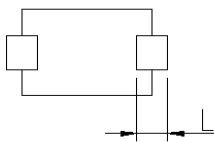
eSGP (SOD-323F)



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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