

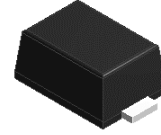
## 0.5A,20-60V Schottky Barrier Rectifiers

### Features

- Low leakage current
- Schottky barrier diodes
- 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



**RoHS**  
COMPLIANT



eSGP(SOD-323F)

### Applications

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

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)						
Parameter	Symbol	SGPD520S	SGPD530S	SGPD540S	SGPD560S	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	60	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	42	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	60	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	0.5				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	15				A
Operating junction temperature range	T <sub>J</sub>	-55 to +150				°C
Storage temperature range	T <sub>STG</sub>	-55 to +150				°C

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



# SGPD520S thru SGPD560S

GOOD-ARK Electronics

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

Parameter	Symbol	Test Conditions	SGPD520S	SGPD530S	SGPD540S	SGPD560S	Unit
Forward Drop Voltage	$V_F$	$I_F=0.5\text{A}$ $T_A=25^\circ\text{C}$	0.45	0.50		0.60	V
		$I_F=0.5\text{A}$ $T_A=125^\circ\text{C}$	0.42	0.46		0.55	
Reverse leakage current @ $V_R$	$I_R$	$T_J=25^\circ\text{C}$	20				$\mu\text{A}$
		$T_J=125^\circ\text{C}$	20	5			mA
Typical junction capacitance	$C_J$	4.0 V 1 MHz	34	25		22	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)

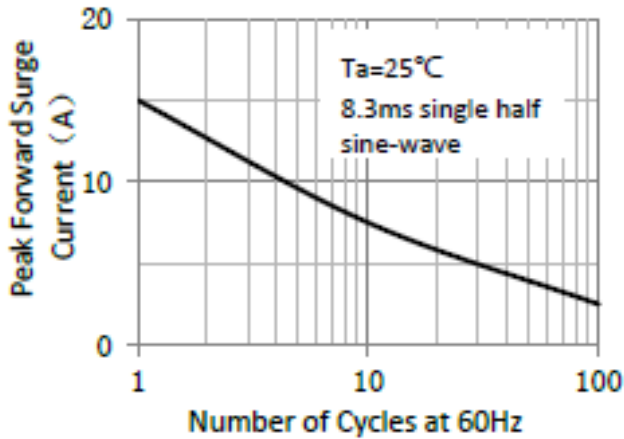


Figure 1. Maximum Non-Repetitive Peak Forward Surge Current

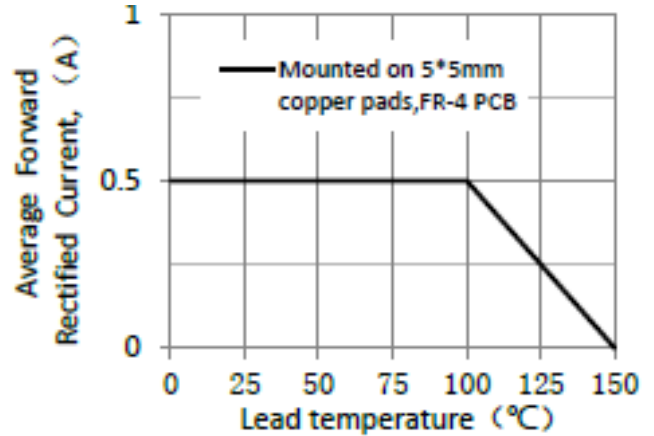


Figure 2. Forward Current Derating Curve

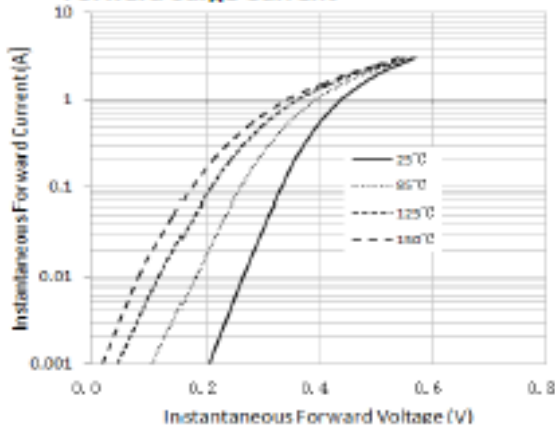


Figure 3. Typical Instantaneous Forward Characteristics (SGPD520S)

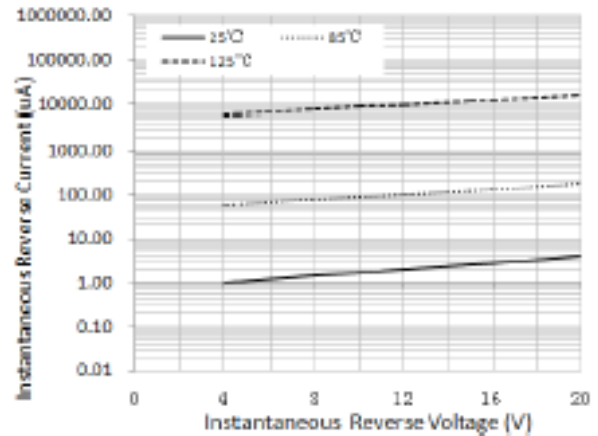


Figure 4. Typical Reverse Characteristics (SGPD520S)

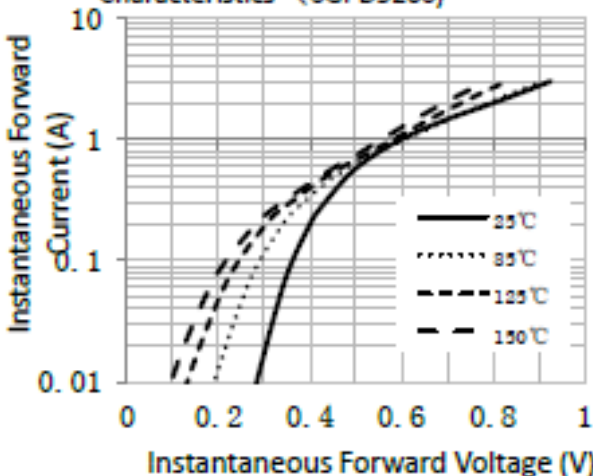


Figure 5. Typical Instantaneous Forward Characteristics (SGPD530S thru SGPD540S)

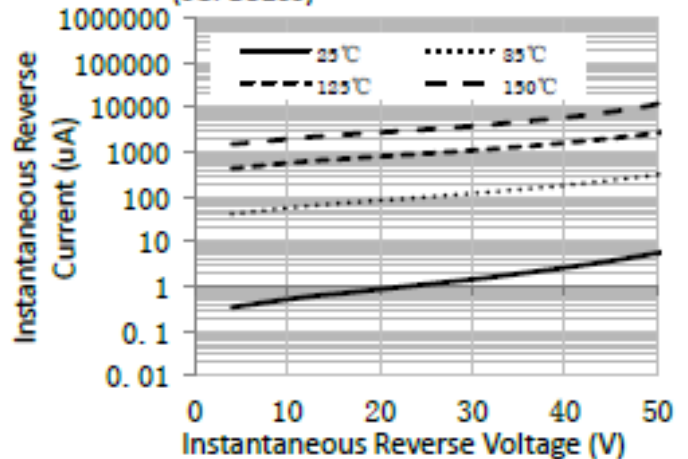


Figure 6. Typical Reverse Characteristics (SGPD530S thru SGPD540S)

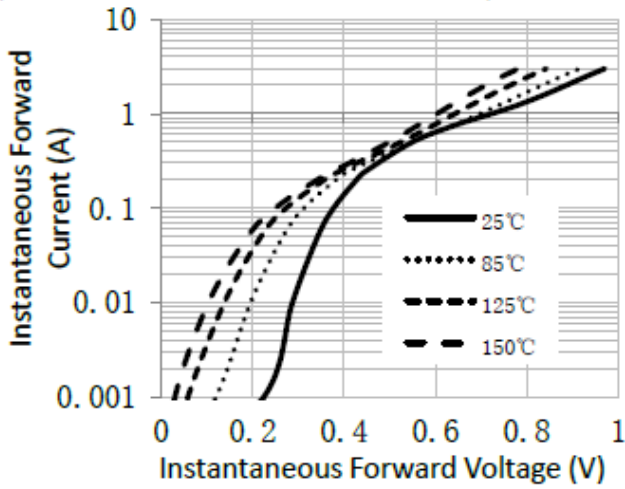


Figure 7. Typical Instantaneous Forward Characteristics (SGPD560S)

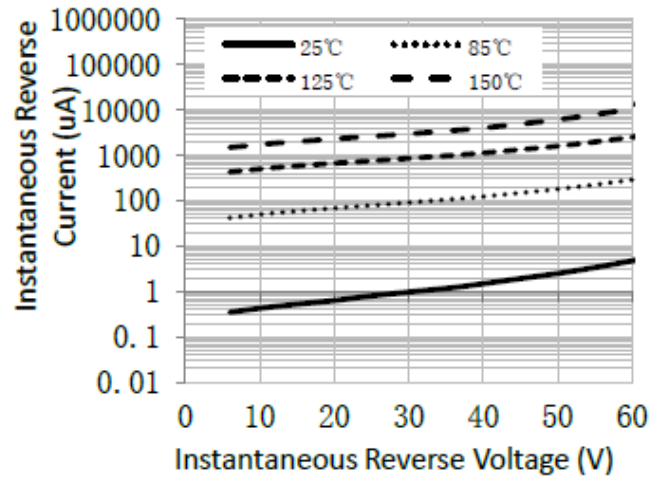


Figure 8. Typical Reverse Characteristics (SGPD560S)

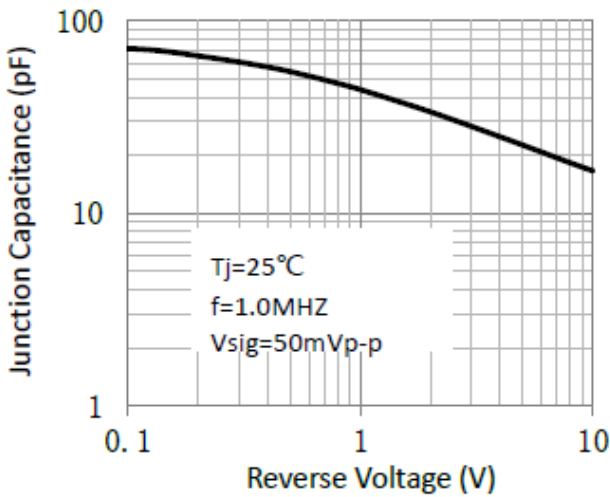


Figure 9. Typical Junction Capacitance(SGPD0540S)

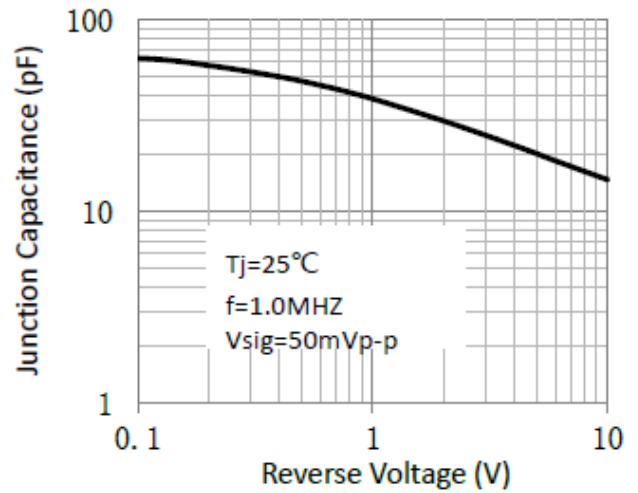
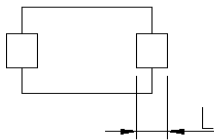
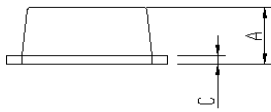
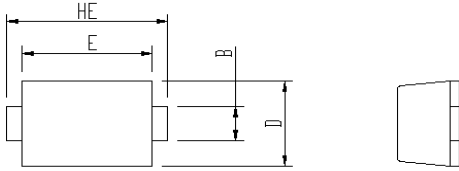


Figure 10. Typical Junction Capacitance(SGPD0560S)

## Package Outline Dimensions

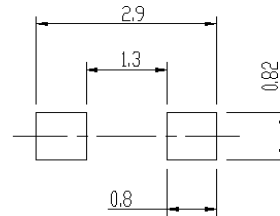
in inches (millimeters)

### 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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