

## 3A,20-45V Schottky Barrier Rectifiers

### Features

- Low leakage current
- Schottky barrier diodes
- Low forward voltage drop
- Very low profile - typical height of 1.1 mm
- 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



eSGC (TO-277B)

### Applications

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

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)						
Parameter	Symbol	SGC0320S	SGC0330S	SGC0340S	SGC0345S	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	45	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	31.5	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	45	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	3				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	100				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>	40	°C /W
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	15	°C /W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	7	°C /W



# SGC0320S thru SGC0345S

GOOD-ARK Electronics

Electrical Specifications (T <sub>A</sub> =25°C unless otherwise noted)							
Parameter	Symbol	Test Conditions	SGC0320S	SGC0330S	SGC0340S	SGC0345S	Unit
Maximum forward drop voltage	V <sub>F</sub>	I <sub>F</sub> =3A		0.50			V
Maximum reverse leakage current @V <sub>R</sub>	I <sub>R</sub>	T <sub>J</sub> =25°C		0.30			mA
		T <sub>J</sub> =125°C		50			
Typical junction capacitance	C <sub>J</sub>	4.0V 1 MHz		230			pF

Note:

1. Mounted on copper pad area of 30 x 30mm to each terminal.

## Ratings and Characteristics Curves

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

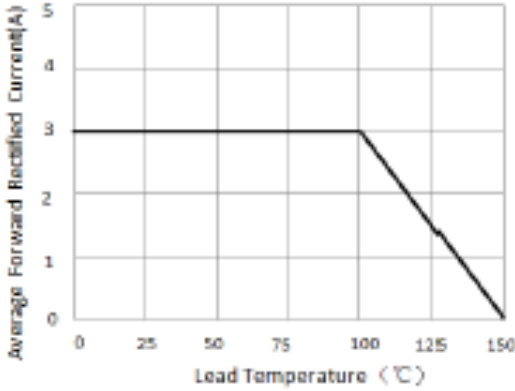


Figure 1. Forward Current Derating Curve

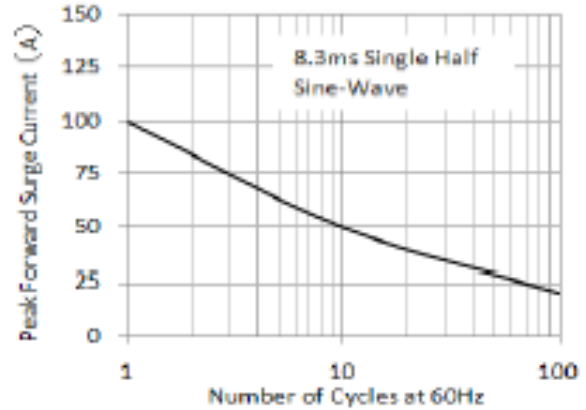


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

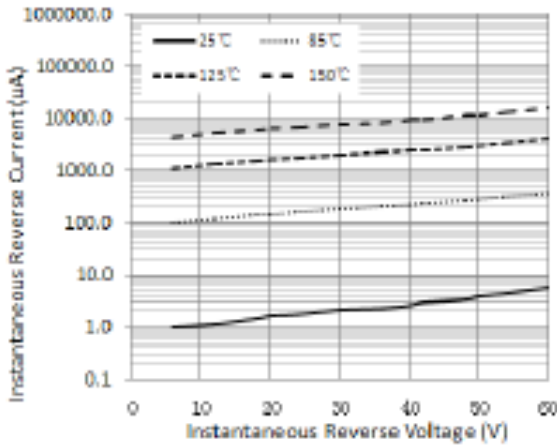


Figure 3. Typical Reverse Characteristics

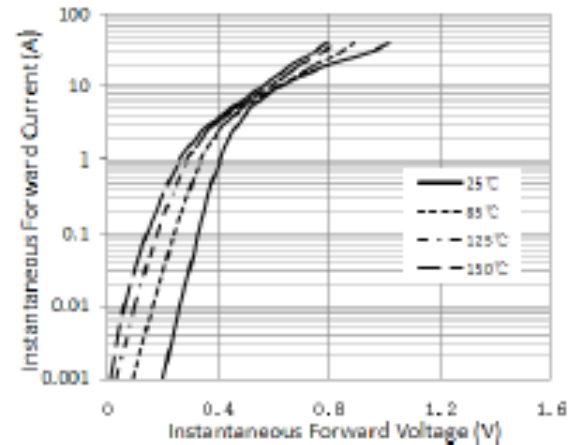


Figure 4. Typical Instantaneous Forward Characteristics (SGC0320S thru SGC0345S)

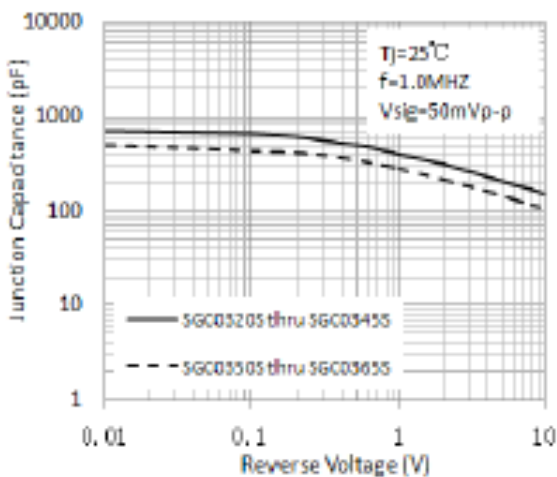


Figure 5. Typical Junction Capacitance

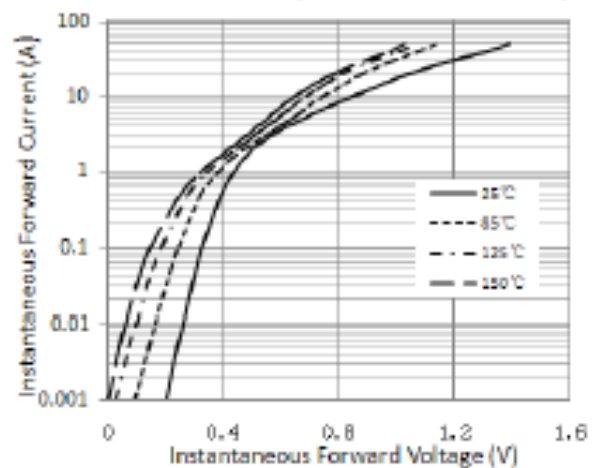
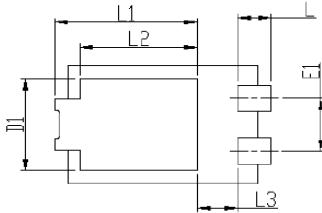
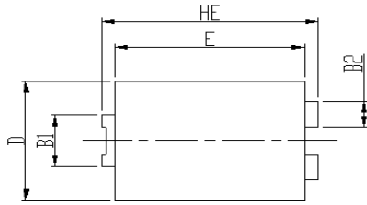


Figure 6. Typical Instantaneous Forward Characteristics (SGC0350S thru SGC0365S)

## Package Outline Dimensions

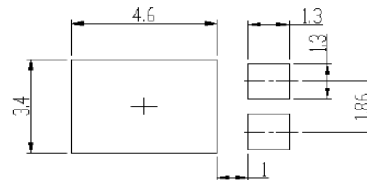
in inches (millimeters)

### eSGC (TO-277B)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
HE	6.4	6.6	0.252	0.260
E	5.6	5.8	0.220	0.228
D	4.1	4.3	0.161	0.169
B1	1.7	1.9	0.067	0.075
B2	0.8	1	0.031	0.039
A	1.05	1.2	0.041	0.047
C	0.3	0.4	0.012	0.016
L	0.85	1.1	0.033	0.043
L1	4.2	4.4	0.165	0.173
L2	3.52 Typ.		0.139 Typ.	
L3	1.1	1.4	0.043	0.055
D1	3	3.3	0.118	0.130
E1	1.86 Typ.		0.073 Typ.	

Soldering footprint



## Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	Released Datasheet
Rev.B	2023.10.11	Modify document format
Rev.C	2023.12.29	Modify package name

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