

## 5A,150V 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
- AEC-Q101 qualified



### Applications

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

Maximum Ratings & Electrical Characteristics (TA=25°C unless otherwise noted)			
Parameter	Symbol	ASGC051B5S	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	150	V
Maximum RMS voltage	V <sub>RMS</sub>	105	V
Maximum DC blocking voltage	V <sub>DC</sub>	150	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	5	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	150	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 (TA=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

Electrical Specifications ( $T_A=25^\circ\text{C}$ unless otherwise noted)						
Parameter	Symbol	Test Conditions		Typ	Max	Unit
Forward drop voltage	$V_F$	$I_F=1\text{A}$	$T_A=25^\circ\text{C}$	0.66	0.70	V
		$I_F=2\text{A}$		0.72	0.78	
		$I_F=5\text{A}$		0.80	0.85	
		$I_F=1\text{A}$	$T_A=125^\circ\text{C}$	0.52	0.58	
		$I_F=2\text{A}$		0.58	0.65	
		$I_F=5\text{A}$		0.66	0.72	
Reverse leakage current @ $V_R$	$I_R$	$T_J = 25^\circ\text{C}$		-	0.2	mA
		$T_J = 125^\circ\text{C}$		-	20	
Typical junction capacitance	$C_J$	4.0V 1 MHz		130		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)

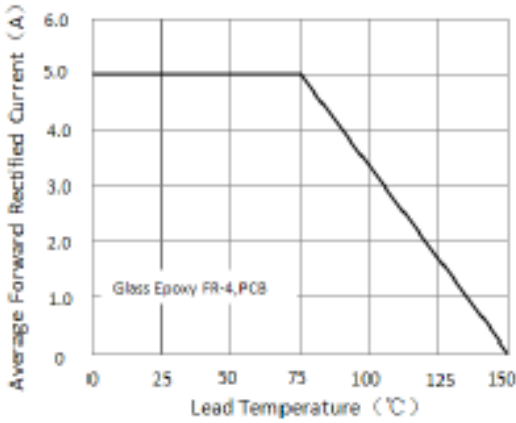


Figure 1. Forward Current Derating Curve

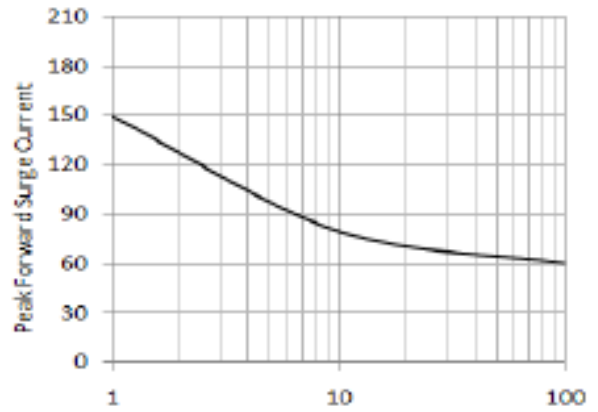


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

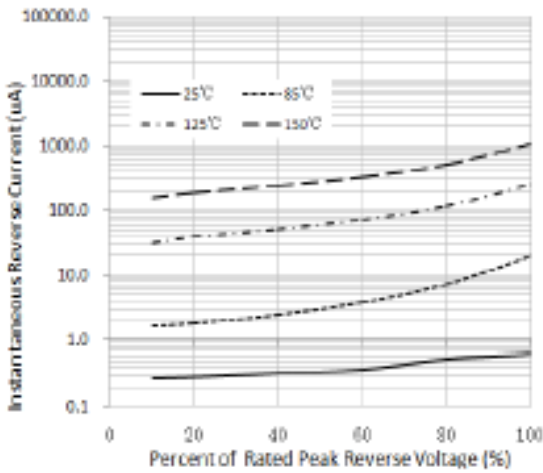


Figure 3. Typical Reverse Characteristics

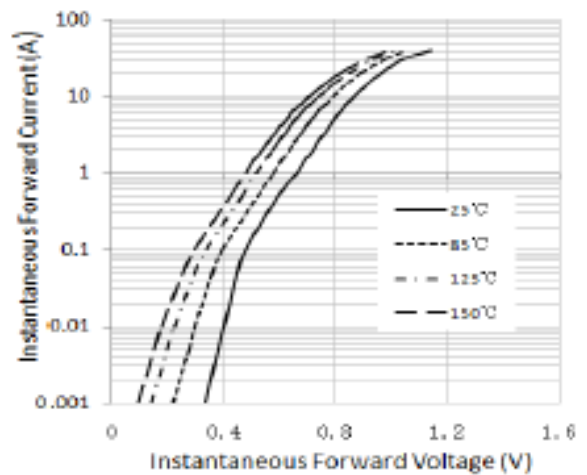


Figure 4. Typical Instantaneous Forward Characteristics

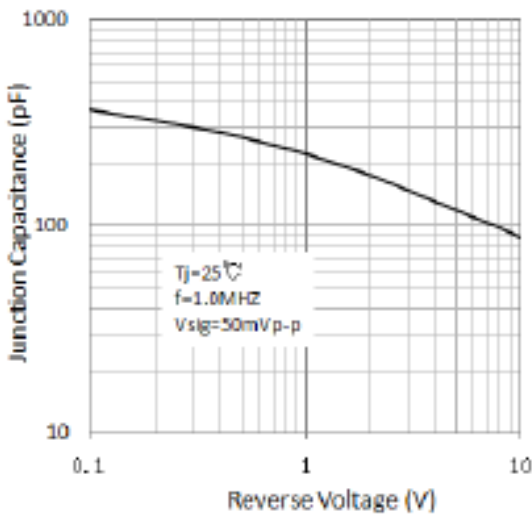
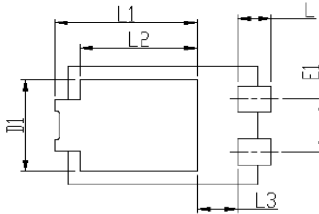
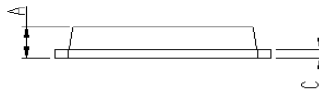
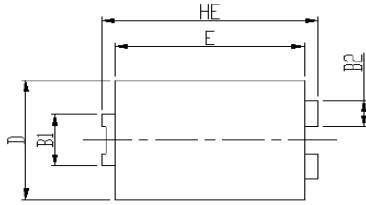


Figure 5. Typical Junction Capacitance

## Package Outline Dimensions

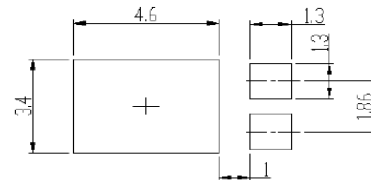
in inches (millimeters)

### 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	2023.10.23	Modify document format
Rev.C	2024.01.10	Modify package name

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