

## 15A,120V 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



**RoHS**  
COMPLIANT



eSGC (TO-277B)

### Applications

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

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	SGC151B2S	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	120	V
Maximum RMS voltage	V <sub>RMS</sub>	84	V
Maximum DC blocking voltage	V <sub>DC</sub>	120	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	15	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	250	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>thJA</sub>	40	°C /W
Thermal Resistance, Junction to Case	R <sub>thJC</sub>	15	°C /W
Thermal Resistance, Junction to Lead	R <sub>thJL</sub>	7	°C /W

## Electrical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions		Typ	Max	Unit
Forward drop voltage	V <sub>F</sub>	I <sub>F</sub> =1A	T <sub>A</sub> =25°C	0.37	0.42	V
		I <sub>F</sub> =2A		0.407	0.45	
		I <sub>F</sub> =5A		0.48	0.55	
		I <sub>F</sub> =15A		0.66	0.75	
		I <sub>F</sub> =1A	T <sub>A</sub> =125°C	0.25	--	
		I <sub>F</sub> =2A		0.30	--	
		I <sub>F</sub> =5A		0.42	--	
		I <sub>F</sub> =15A		0.56	--	
Reverse leakage current @V <sub>R</sub>	I <sub>R</sub>	T <sub>J</sub> =25°C		0.019	0.2	mA
		T <sub>J</sub> =125°C		16.8	30	
Junction capacitance	C <sub>J</sub>	V <sub>R</sub> =4.0V, f=1MHZ		1576	--	pF

Note:

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

## Ratings and Characteristics Curves (T<sub>A</sub>=25°C unless otherwise noted)

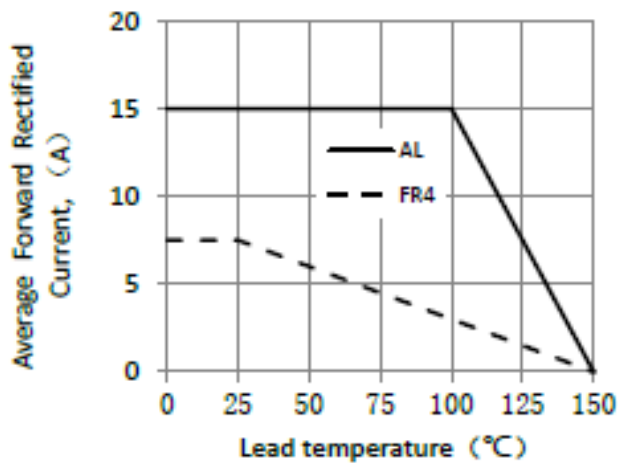


Figure 1. Forward Current Derating Curve

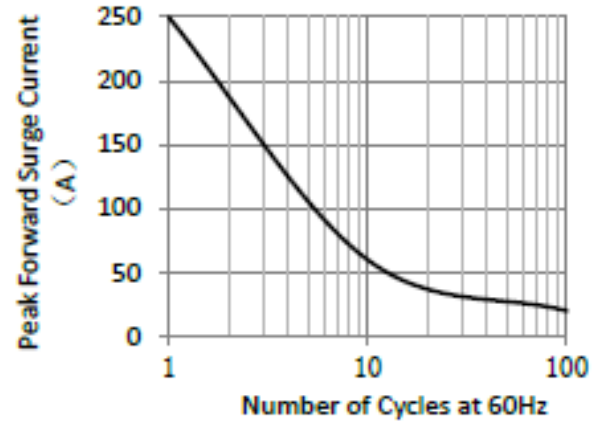


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

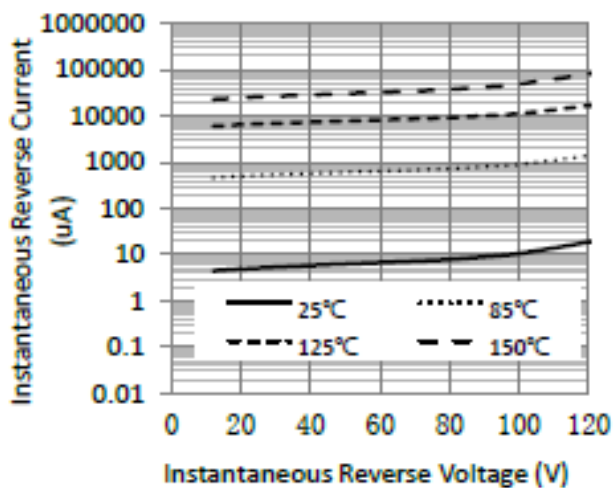


Figure 3. Typical Reverse Characteristics

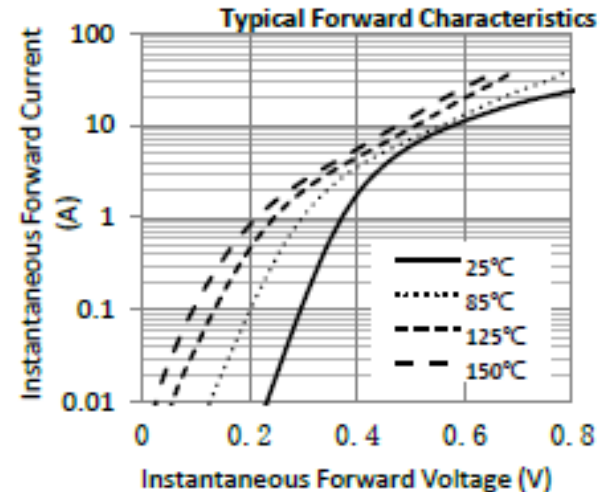


Figure 4. Typical Instantaneous Forward Characteristics

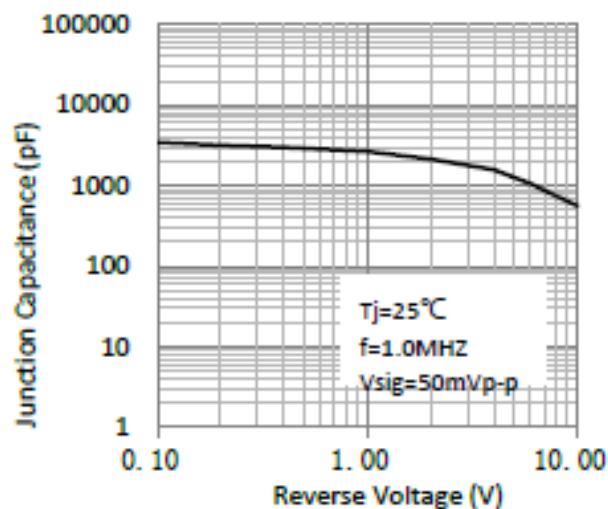
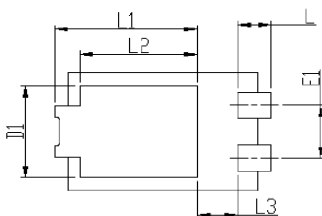
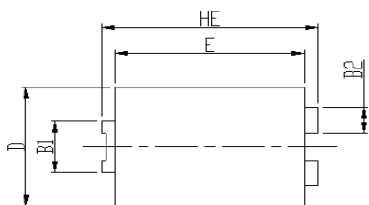


Figure 5. Typical Junction Capacitance

## Package Outline Dimensions

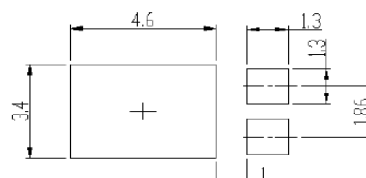
in inches (millimeters)

### 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



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