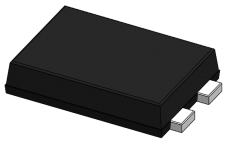
20A,100V Schottky Barrier Rectifier

Features

- Low leakage current
- Schottky barrier diode
- 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℃/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_A=25℃ unless otherwise noted)

Parameter	Symbol	SGC201BSD	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum RMS voltage	V_{RMS}	70	V
Maximum DC blocking voltage	V_{DC}	100	V
Maximum average forward rectified current	$I_{F(AV)}$	20	A
Peak forward surge current,8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	240	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℃ unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	40	°C /W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	15	°C /W
Thermal Resistance, Junction to Lead	$R_{\theta JL}$	7	°C /W

Electrical Specifications(T_A=25℃ unless otherwise noted)						
Parameter	**Symbol**	**Test Conditions**		**Typ**	**Max**	**Unit**
Forward drop voltage	V_F	I_F=1A	T_A=25℃	0.38	-	V
		I_F=2A		0.41	-	
		I_F=3A		0.43	-	
		I_F=5A		0.47	0.53	
		I_F=10A		0.55	-	
		I_F=20A		0.68	0.85	
		I_F=5A	T_A=125℃	0.39	-	
		I_F=20A		0.61	0.70	
Reverse leakage current @V_R	I_R	T_J =25℃		29.5	250	uA
		T_J =125℃		15.2	30	mA
Typical junction capacitance	C_J	4.0V 1 MHZ		290		pF

Note：

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

Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

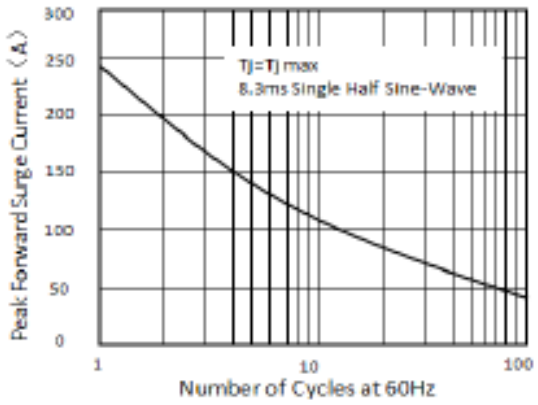


Figure 1.Maximum Non-Repetitive Peak Forward Surge Current

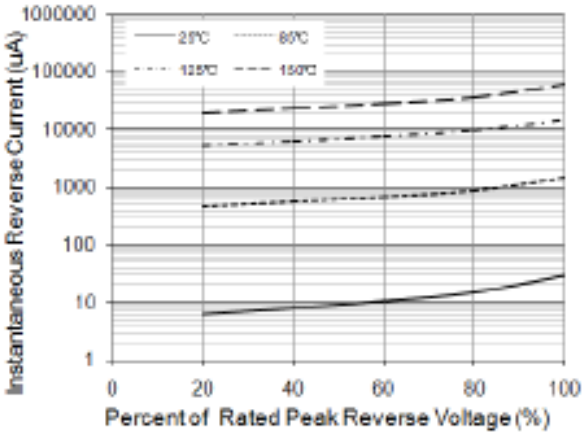


Figure 2. Typical Reverse Characteristics

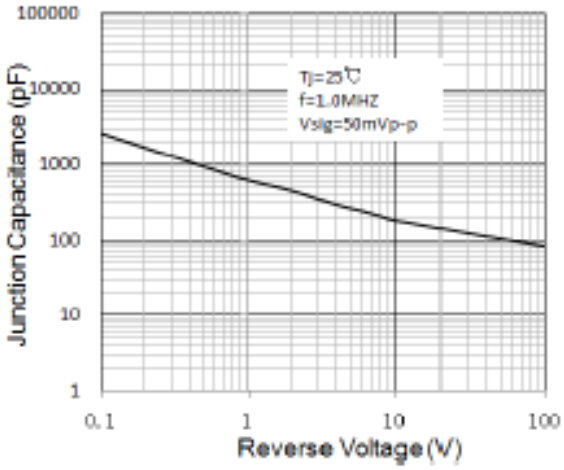


Figure 3. Typical Junction Capacitance

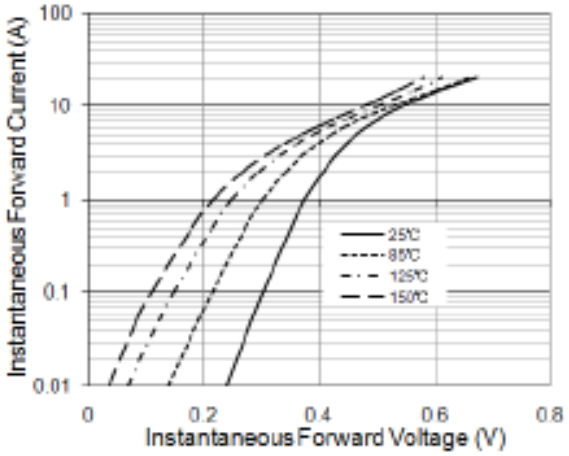


Figure 4. Typical Instantaneous Forward Characteristics

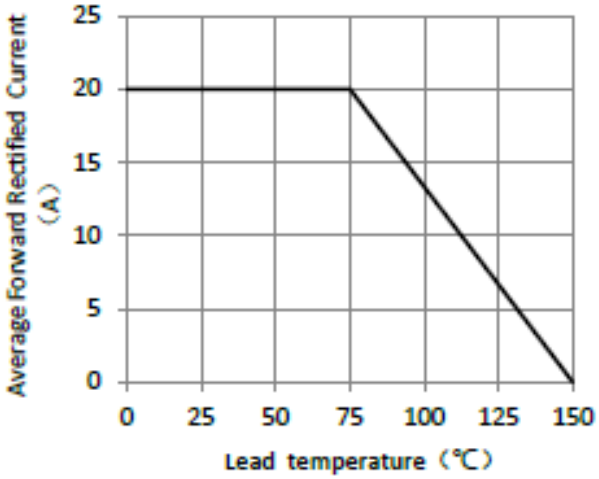
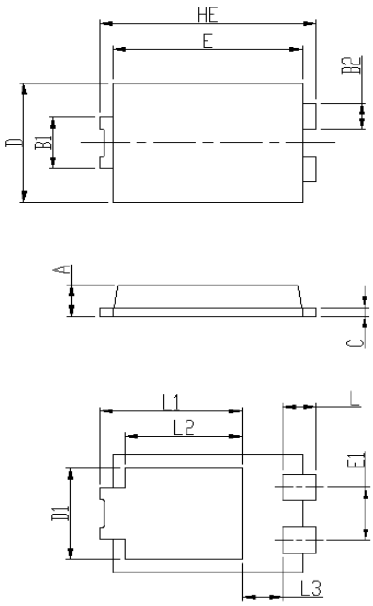


Figure 5.Forward Current Derating Curve

Package Outline Dimensions

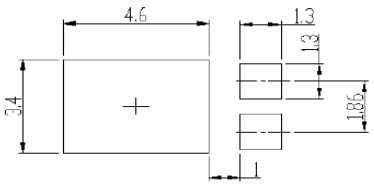
in inches (millimeters)

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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