SGC12BS

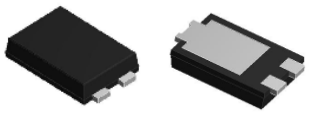
Surface Mount Schottky Rectifier

Reverse Voltage 100V Forward Current 12A

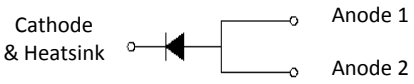
Features

- Schottky barrier diodes
- Low forward voltage drop
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Low profile - typical height of 1.1 mm
- Heatsink design
- High temperature soldering guaranteed: 260℃/10 seconds
- Halogen-free according to IEC 61249-2-21 definition

RoHS COMPLIANT



eSGC (TO-277)



Typical Applications

For low voltage high frequency inverters, DC/DC converters and polarity protection application.

Maximum Ratings (TA = 25 °C unless otherwise noted)

Parameter	Symbol	SGC12BS	Unit
Maximum repetitive peak reverse voltage	VRRM	100	V
Maximum RMS voltage	VRMS	70	V
Maximum DC blocking voltage	VDC	100	V
Maximum average forward rectified current	IF(AV)[1]	5.0	A
	IF(AV)[2]	12.0	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	IFSM	240	A
Operating junction and storage temperature range	TJ, TSTG	-55 to +150	°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Maximum instantaneous forward voltage	I_F=5A	T_A=25℃	V_F	0.47	-	Volts
	I_F=12A			0.57	0.70	
	I_F=5A	T_A=125℃		0.39	-	
	I_F=12A			0.53	0.65	
Maximum DC reverse current at rated DC blocking voltage	VR=80V	T_A=25℃	I_R	14.9	-	uA
		T_A=125℃		9.6	-	mA
	VR=100V	T_A=25℃	I_R	29.5	250	uA
		T_A=125℃		15.2	30	mA
Typical junction capacitance	4.0 V, 1 MHz		C_J	1.35		nF
Typical thermal resistance	juntion to ambient		$R_{\theta JA}$ [1]	75		℃/W
	juntion to mount		$R_{\theta JM}$ [2]	1		℃/W

Notes,1)Thermal resistance $R_{\theta JA}$ is junction to ambient. Free air,mounted on P.C.B with recommended copper pad area,2 OZ,FR4

2)Thermal resistance $R_{\theta JM}$ is junction to mount.Mounted on P.C.B with 30*30mm copper pad area

Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

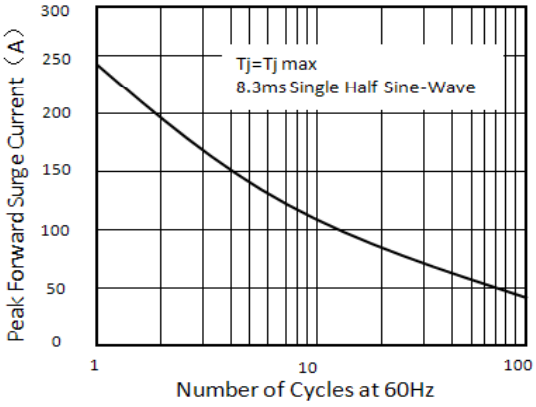


Figure 1.Maximum Non-Repetitive Peak Forward Surge Current

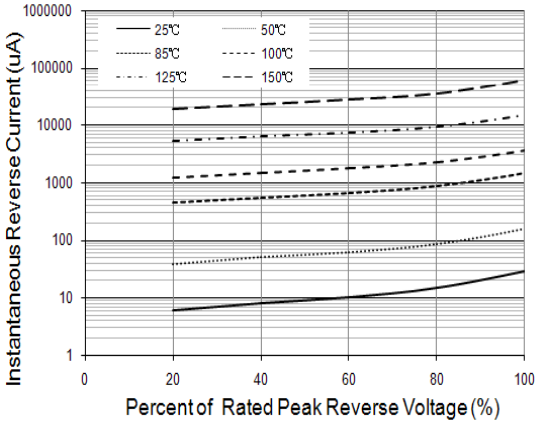


Figure 2. Typical Reverse Characteristics

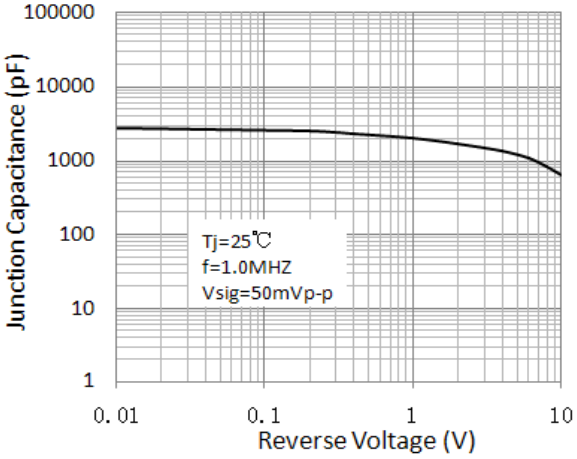


Figure 3. Typical Junction Capacitance

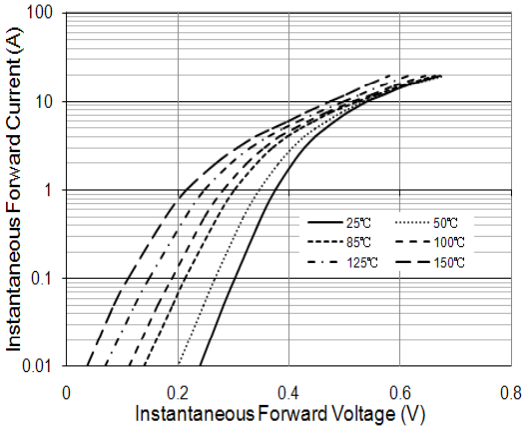


Figure 4. Typical Instantaneous Forward Characteristics

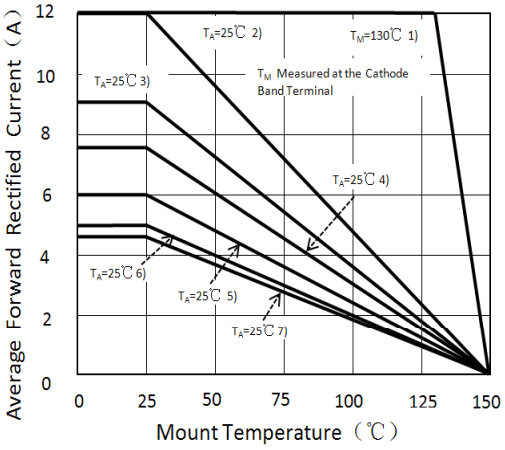


Figure 5.Forward Current Derating Curve

Notes

1) Mounted on P.C.B with 30*30mm copper pad area

2) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA}$=27℃/W)

3) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA}$=30℃/W)

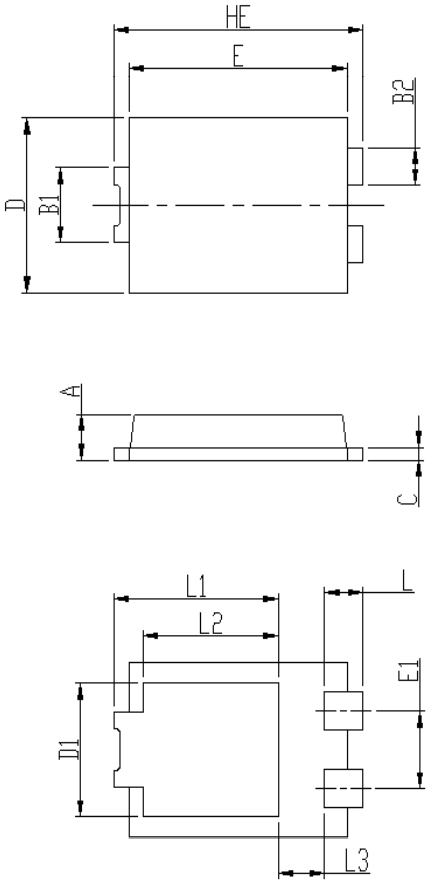
4) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA}$=32℃/W)

5) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA}$=34℃/W)

6) Fre air, Mounted on recommended copper pad area FR4 PCB($R_{\theta JA}$=75℃/W)

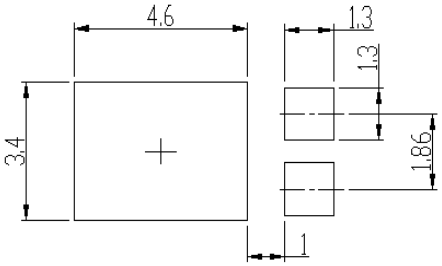
7) Fre air, Mounted on recommended copper pad area FR4 PCB($R_{\theta JA}$=76℃/W)

Package Outline Dimensions



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

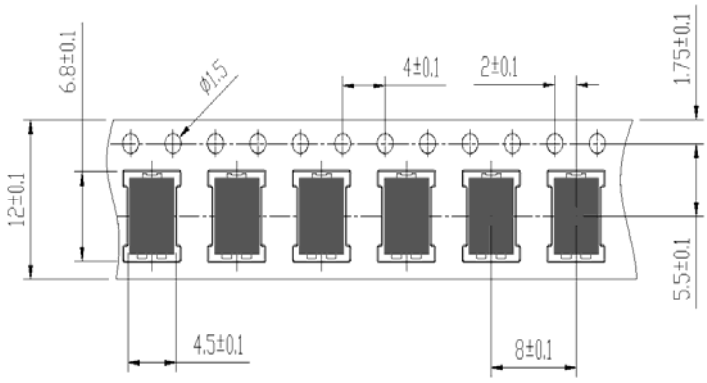


Packing Information

Packing quantities:

5000 pcs/Reel，12mm Tape, 13" Reel

Tape & Reel Specification



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