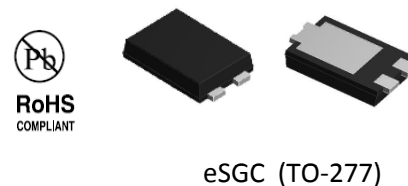


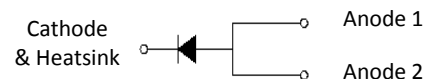
## Features

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



## APPLICATIONS

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



MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	SGC1045S	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	45	V
Maximum RMS voltage	V <sub>RMS</sub>	31.5	V
Maximum DC blocking voltage	V <sub>DC</sub>	45	V
Maximum average forward rectified current	I <sub>F(AV)</sub> <sup>1)</sup>	10.0	A
	I <sub>F(AV)</sub> <sup>2)</sup>	5.0	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	280	A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	I <sub>F</sub> =1A	T <sub>A</sub> =25°C	V <sub>F</sub>	0.30	0.35	Volts
	I <sub>F</sub> =2A			0.33	0.38	
	I <sub>F</sub> =10A			0.41	0.45	
	I <sub>F</sub> =1A	T <sub>A</sub> =85°C		0.22	0.27	
	I <sub>F</sub> =2A			0.25	0.3	
	I <sub>F</sub> =10A			0.36	0.42	
	I <sub>F</sub> =1A	T <sub>A</sub> =125°C		0.16	0.20	
	I <sub>F</sub> =2A			0.20	0.24	
	I <sub>F</sub> =10A			0.32	0.36	
Instantaneous reverse current	Rated VR	T <sub>A</sub> =25	I <sub>R</sub>	0.23	0.3	mA
		T <sub>A</sub> =85		14.5	18	
		T <sub>A</sub> =100		35	39	
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	0.95		nF
Typical thermal resistance <sup>1)</sup>	junction to ambient		R <sub>θJA</sub>	80		°C/W
	junction to case		R <sub>θJC</sub>	35		
	junction to mount		R <sub>θJM</sub>	20		

Note:1),The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 30×30mm copper pads,2 OZ,FR4 PCB

2):Mounted on recommended copper pad area,free air.

## RATINGS AND CHARACTERISTICS CURVES

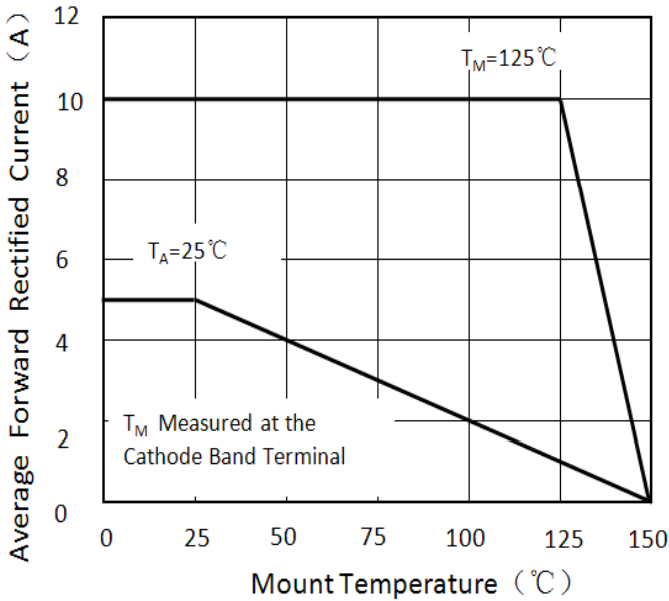


Figure 1. Forward Current Derating Curve

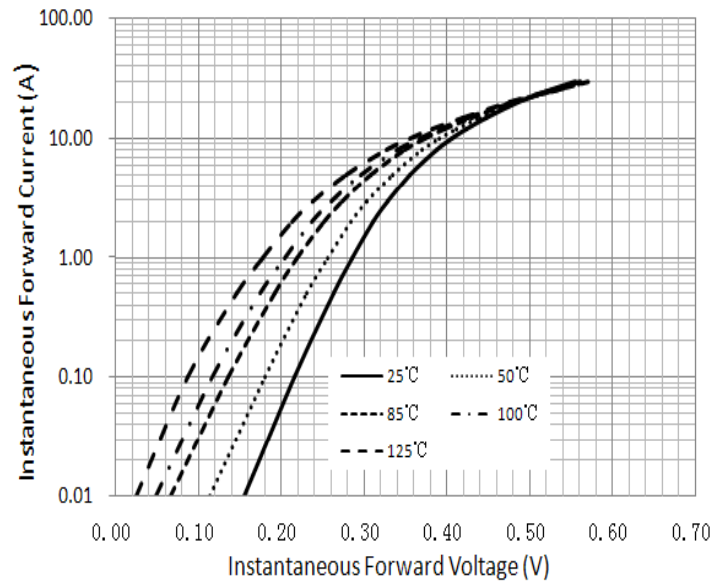


Figure 2. Typical Instantaneous Forward Characteristics

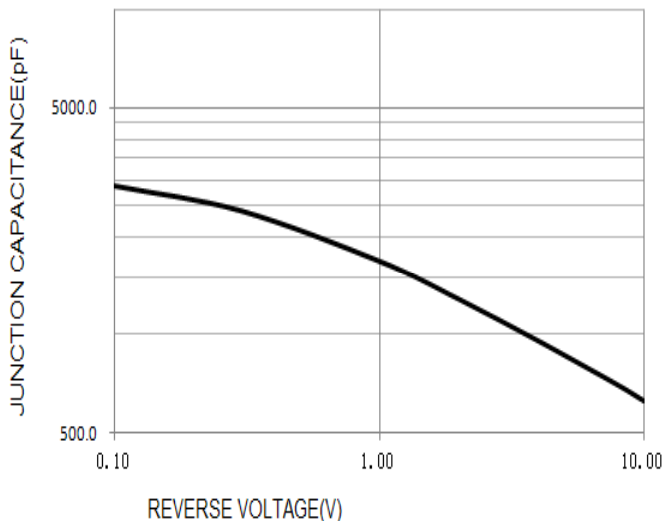


Figure 3. Typical Junction Capacitance

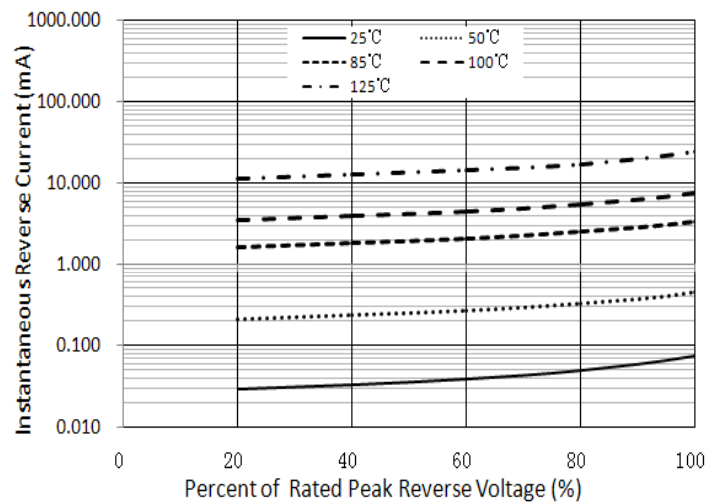


Figure 4. Typical Reverse Characteristics

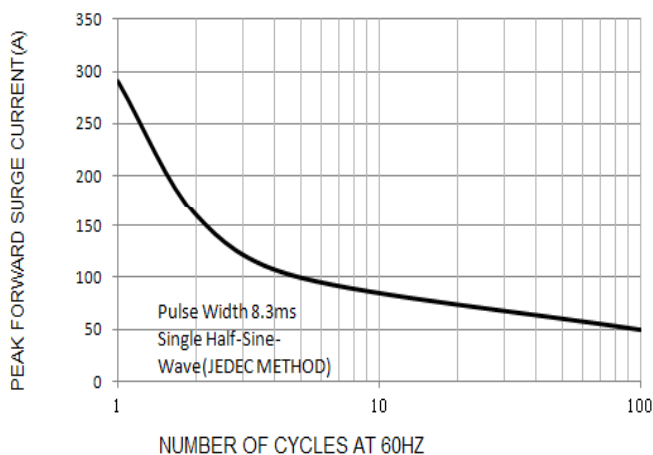
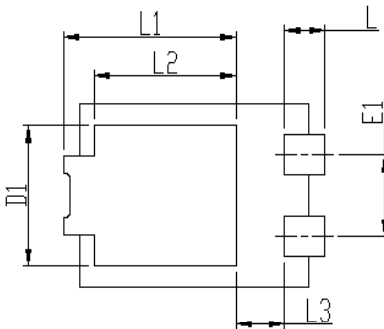
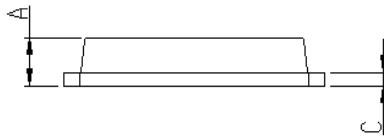
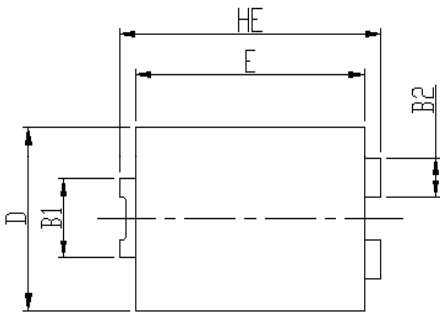


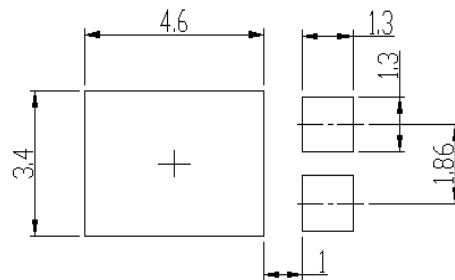
Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

## 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

