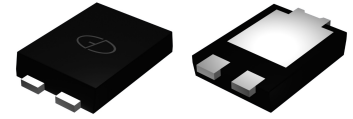
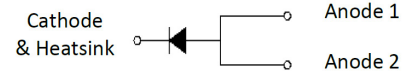


## Features

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



Package:  
eSGC (TO-277)



Schematic Diagram

## Applications

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

## Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum RMS Voltage	$V_{RMS}$	31.5	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum Average Forward Rectified Current	$I_{F(AV)}^{(1)}$	10.0	A
	$I_{F(AV)}^{(2)}$	5.0	
Peak Forward Surge Current (8.3ms single half sine-wave superimposed on rated load)	$I_{FSM}$	280	A
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions	Symbol	Typ.	Max.	Unit	
Instantaneous Forward Voltage	$I_F=1\text{A}$	$T_A=25^\circ\text{C}$	$V_F$	0.30	0.35	V
	$I_F=2\text{A}$			0.33	0.38	
	$I_F=10\text{A}$			0.41	0.45	
	$I_F=1\text{A}$	$T_A=85^\circ\text{C}$		0.22	0.27	
	$I_F=2\text{A}$			0.25	0.3	
	$I_F=10\text{A}$			0.36	0.42	
	$I_F=1\text{A}$	$T_A=125^\circ\text{C}$		0.16	0.20	
	$I_F=2\text{A}$			0.20	0.24	
	$I_F=10\text{A}$			0.32	0.36	
Instantaneous Reverse Current	Rated $V_R$	$I_R$	$T_A=25^\circ\text{C}$	0.23	0.3	mA
			$T_A=85^\circ\text{C}$	14.5	18	
			$T_A=100^\circ\text{C}$	35	39	
Junction Capacitance	4.0 V, 1 MHz	$C_J$	0.95		nF	
Typical Thermal Resistance <sup>1)</sup>	Junction to Ambient	$R_{\theta JA}$	80		$^\circ\text{C/W}$	
	Junction to Case	$R_{\theta JC}$	35			
	Junction to Mount	$R_{\theta JM}$	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 ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

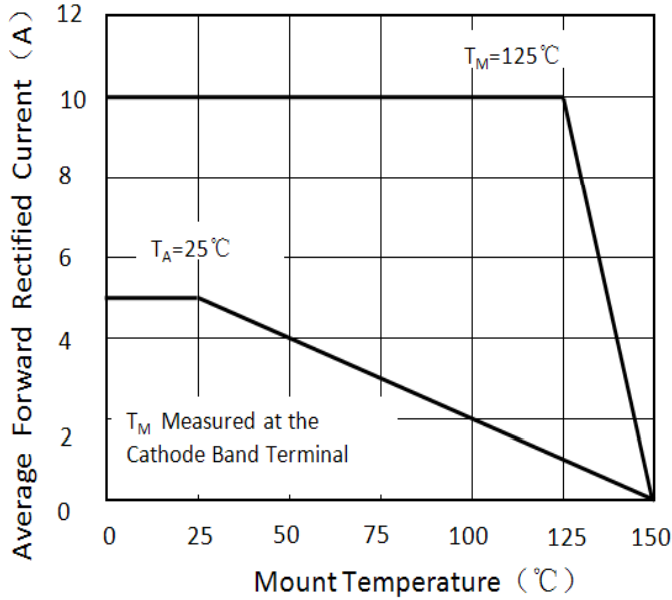


Figure 1. Forward Current Derating Curve

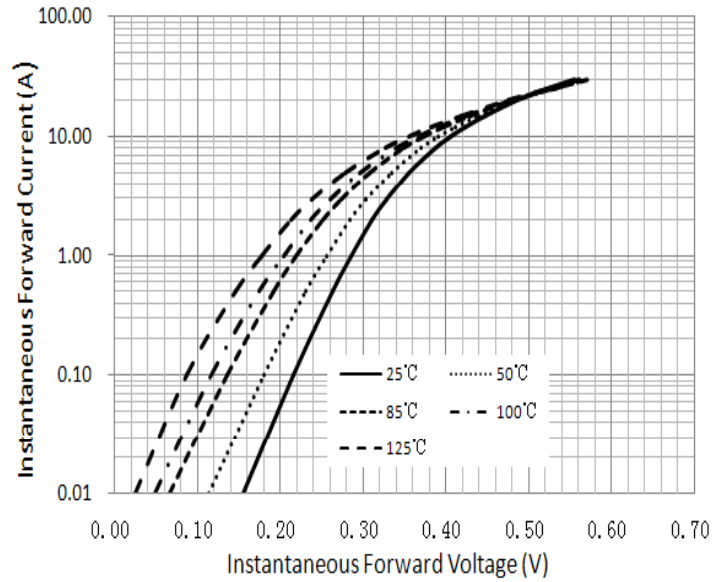


Figure 2. Typical Instantaneous Forward Characteristics

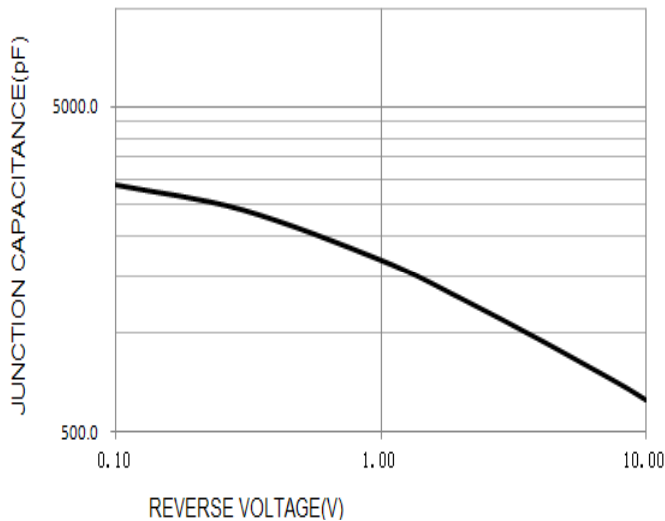


Figure 3. Typical Junction Capacitance

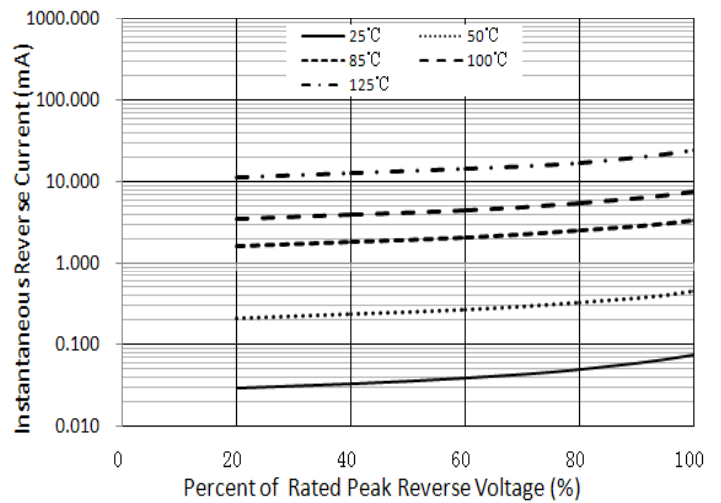


Figure 4. Typical Reverse Characteristics

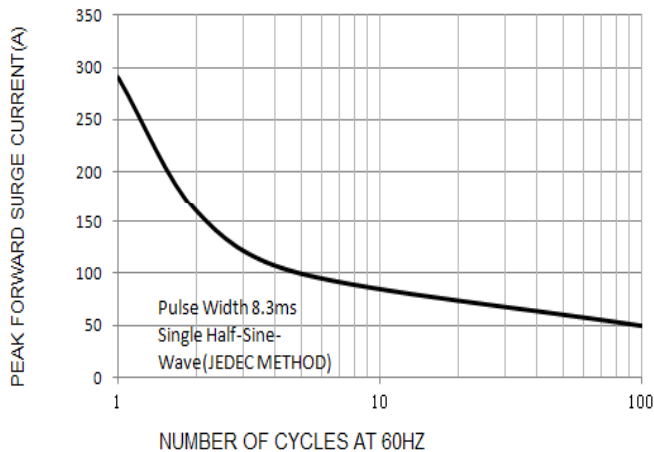
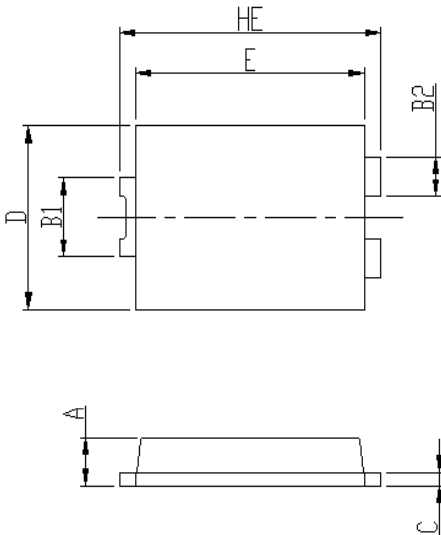


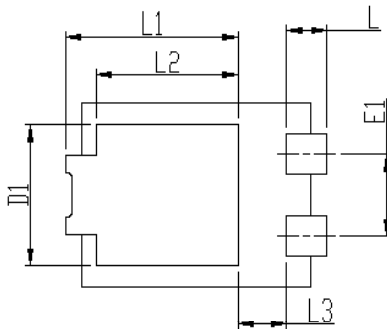
Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

## Package Outline Dimensions

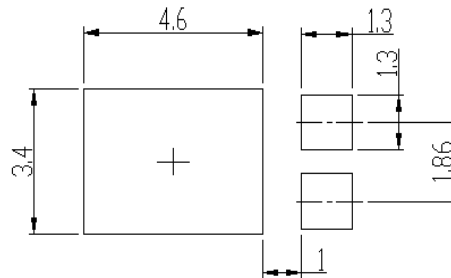
eSGC (TO-277)



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, 12 mm Tape, 13" Reel

### Tape & Reel Specification

