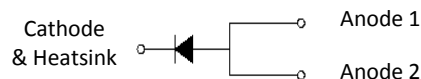
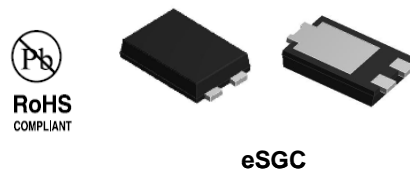


Features

- 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°C/10 seconds
- Halogen-free according to IEC 61249-2-21 definition



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 | SGC1545S | UNIT |
| Maximum repetitive peak reverse voltage | VRRM | 45 | V |
| Maximum RMS voltage | VRMS | 31.5 | V |
| Maximum DC blocking voltage | VDC | 45 | V |
| Maximum average forward rectified current | IF(AV) ¹ | 6.0 | A |
| | IF(AV) ² | 15.0 | |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | IFSM | 300 | 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 | IF=1A | TA=25°C | VF | 0.30 | 0.32 | Volts |
| | IF=15A | | | 0.44 | 0.47 | |
| | IF=1A | TA=85°C | | 0.22 | 0.27 | |
| | IF=15A | | | 0.43 | 0.45 | |
| | IF=1A | TA=125°C | | 0.17 | 0.20 | |
| | IF=15A | | | 0.42 | 0.45 | |
| Maximum DC reverse current at rated DC blocking voltage | Rated VR | TA=25 | IR | 0.08 | 0.2 | mA |
| | | TA=85 | | 3.5 | 8 | |
| | | TA=125 | | 25 | 35 | |
| Typical junction capacitance | 4.0 V, 1 MHz | | CJ | 0.95 | | nF |
| Typical thermal resistance | junction to ambient | | RθJA ¹ | 72 | | °C/W |
| | junction to mount | | RθJM ² | 1 | | °C/W |

Notes

1) Thermal resistance RθJA is junction to ambient. Free air, mounted on P.C.B with recommended copper pad area, 2 OZ, FR4

2) Thermal resistance RθJM is junction to mount. Mounted on P.C.B with 30*30mm copper pad area

RATINGS AND CHARACTERISTICS CURVES

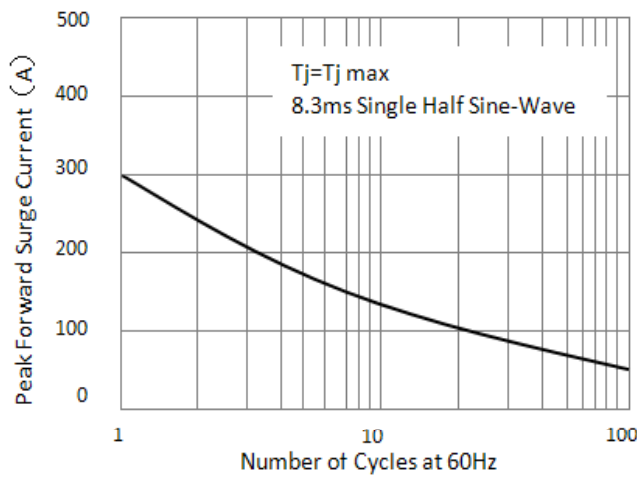


Figure 1. Maximum Non-Repetitive Peak Forward Surge Current

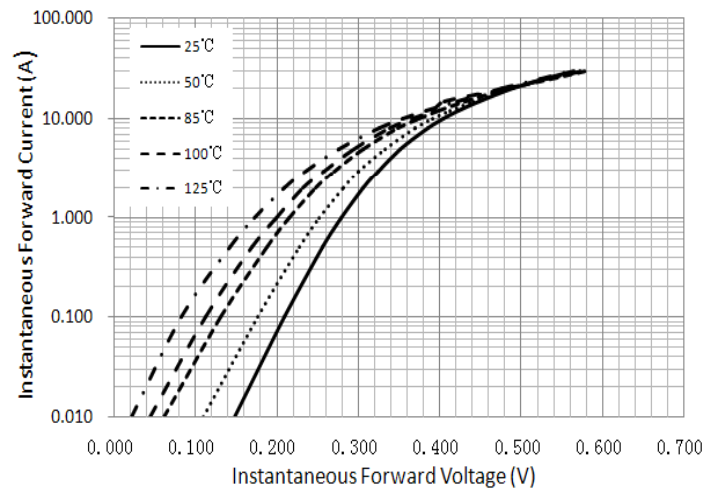


Figure 2. Typical Instantaneous Forward Characteristics

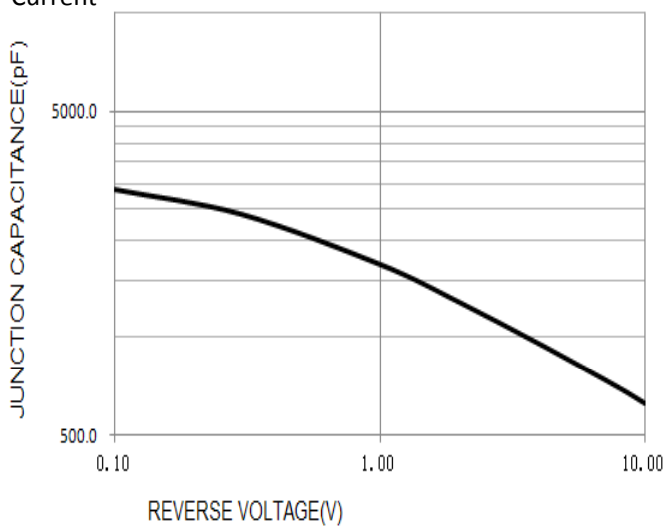


Figure 3. Typical Junction Capacitance

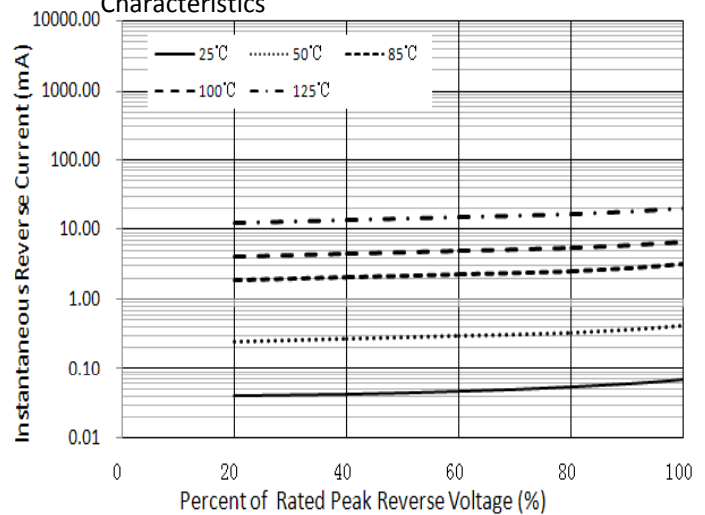


Figure 4. Typical Reverse Characteristics

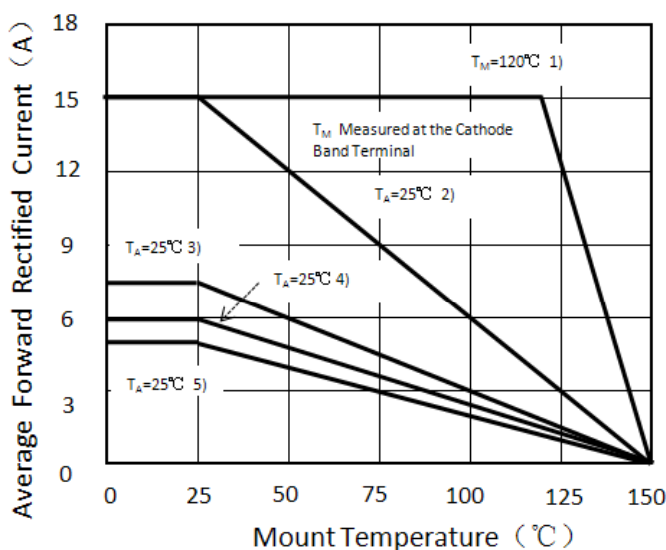
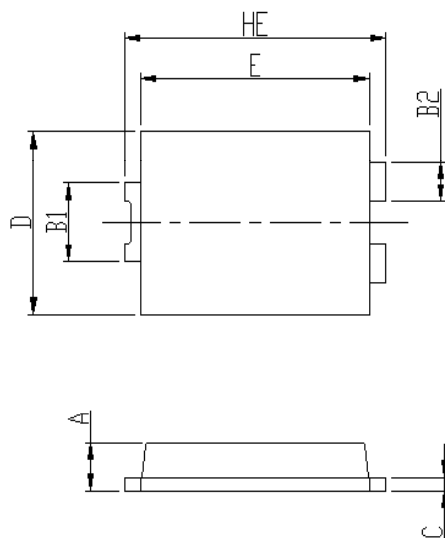


Figure 5. Forward Current Derating Curve

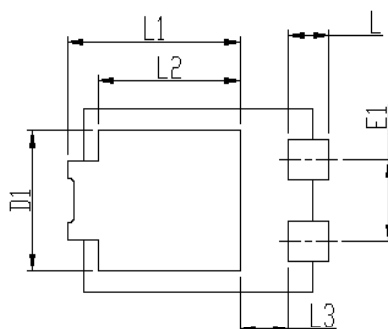
Notes

- 1) Mounted on P.C.B with 30*30mm copper pad area
- 2) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA}=27 \text{ }^{\circ}\text{C/W}$)
- 3) Mounted on P.C.B with 30*30mm copper pad area FR4 PCB ($R_{\theta JA}=37 \text{ }^{\circ}\text{C/W}$)
- 4) Fre air, Mounted on recommended copper pad area FR4 PCB ($R_{\theta JA}=72 \text{ }^{\circ}\text{C/W}$)
- 5) Fre air, Mounted on recommended copper pad area FR4 PCB ($R_{\theta JA}=82 \text{ }^{\circ}\text{C/W}$)

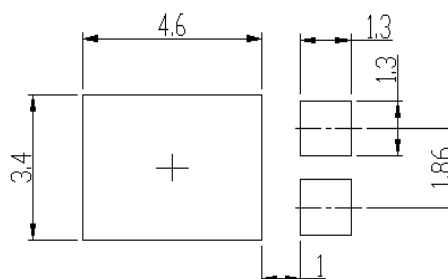
PACKAGE OUTLINE DIMENSIONS



| 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

