

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 | 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 | IF=5A | TA=25°C | VF | 0.47 | - | Volts |
| | | | | IF=12A | 0.57 | |
| | IF=5A | TA=125°C | | 0.39 | - | |
| | | | | IF=12A | 0.53 | |
| Maximum DC reverse current at rated DC blocking voltage | VR=80V | TA=25°C | IR | 14.9 | - | µA |
| | | | | TA=125°C | 9.6 | - |
| | VR=100V | TA=25°C | IR | 29.5 | 250 | µA |
| | | | | TA=125°C | 15.2 | 30 |
| Typical junction capacitance | 4.0 V, 1 MHz | | Cj | 290 | | pF |
| Typical thermal resistance | junction to ambient | | RDJA ¹⁾ | 75 | | °C/W |
| | junction to mount | | RDJM ²⁾ | 1 | | °C/W |

1) Ion to ambient. Free air, mounted on P.C.B with recommended copper pad area, 2 OZ.FR4
2) mount. Mounted on P.C.B with 30*30mm copper pad area

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

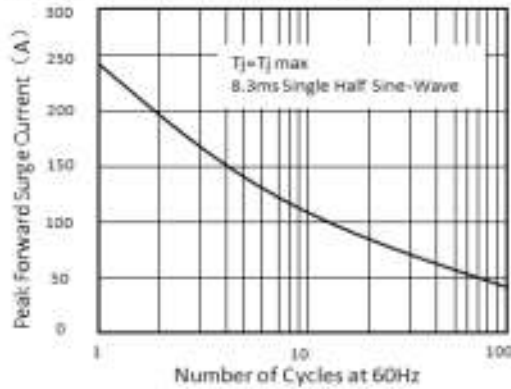


Figure 1. Maximum Non-Repetitive Peak Forward Surge Current

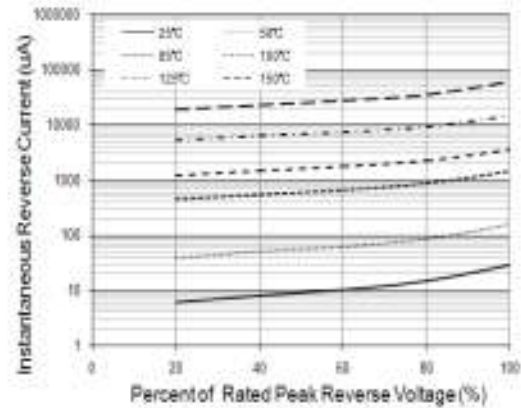


Figure 2. Typical Reverse Characteristics

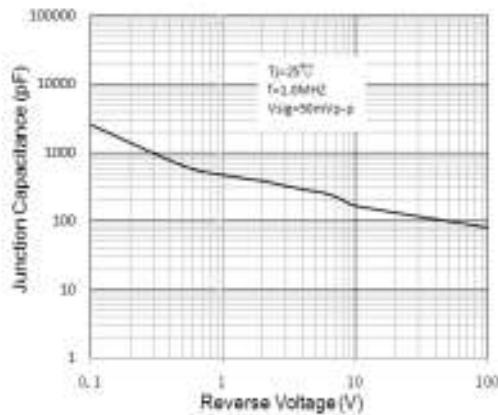


Figure 3. Typical Junction Capacitance

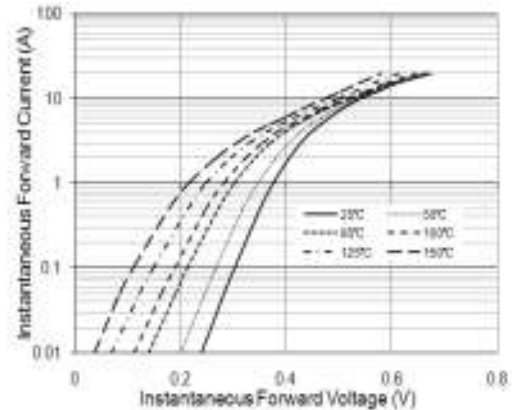


Figure 4. Typical Instantaneous Forward Characteristics

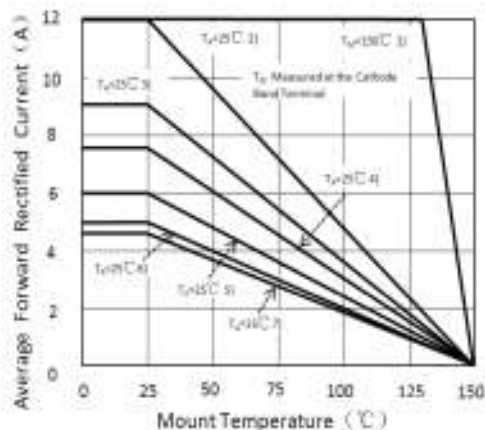


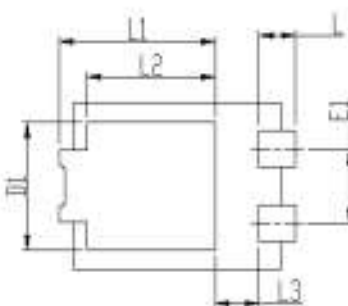
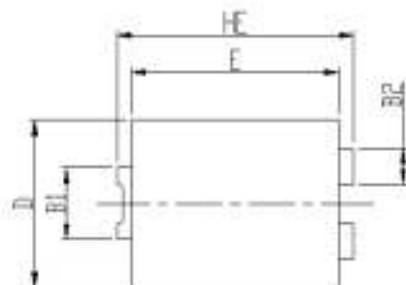
Figure 5. Forward Current Derating Curve

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 ($R_{\theta JA} = 27^\circ\text{C/W}$)
- 3) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA} = 30^\circ\text{C/W}$)
- 4) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA} = 32^\circ\text{C/W}$)
- 5) Mounted on P.C.B with 30*30mm copper pad area ($R_{\theta JA} = 34^\circ\text{C/W}$)
- 6) Fre air, Mounted on recommended copper pad area FR4 PCB ($R_{\theta JA} = 75^\circ\text{C/W}$)
- 7) Fre air, Mounted on recommended copper pad area FR4 PCB ($R_{\theta JA} = 76^\circ\text{C/W}$)

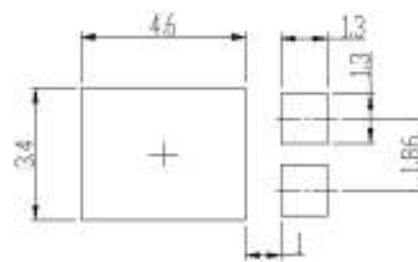
Package Outline Dimensions

in inches (millimeters)



| 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

