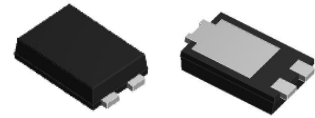
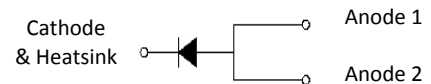


Features

- 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



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 | SGC1045S | Unit |
| Maximum repetitive peak reverse | 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 | 10.0 | A |
| | IF(AV) ² | 5.0 | |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | IFSM | 280 | 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 | |
| Instantaneous forward voltage | IF=1A | TA=25°C | VF | 0.30 | 0.35 | Volts | |
| | | | | IF=2A | 0.33 | | 0.38 |
| | | | | | IF=10A | | 0.41 |
| | IF=1A | TA=85°C | | 0.22 | 0.27 | | |
| | | | | IF=2A | 0.25 | | 0.3 |
| | | | | | IF=10A | | 0.36 |
| | IF=1A | TA=125°C | | 0.16 | 0.20 | | |
| | | | | IF=2A | 0.20 | | 0.24 |
| | | | | | IF=10A | | 0.32 |
| Instantaneous reverse current | Rated VR | TA=25°C | IR | 0.23 | 0.3 | mA | |
| | | TA=85°C | | 14.5 | 18 | | |
| | | TA=100°C | | 35 | 39 | | |
| Typical junction capacitance | 4.0 V, 1 MHz | | CJ | 0.95 | | nF | |
| Typical thermal resistance ¹⁾ | junction to ambient | | RθJA | 80 | | °C/W | |
| | junction to case | | RθJC | 35 | | | |
| | junction to mount | | RθJM | 20 | | | |

Note:1),The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 30x30mm copper pads,2 OZ,FR4 PCB

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

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

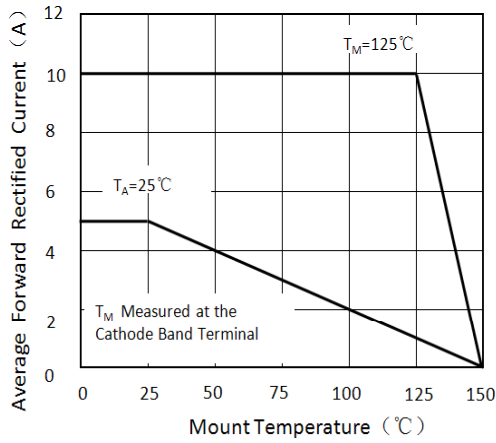


Figure 1. Forward Current Derating Curve

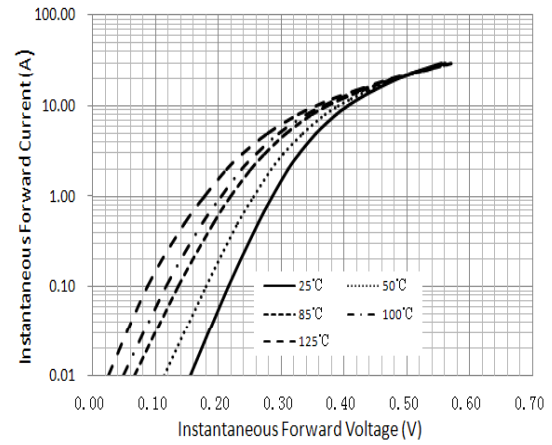


Figure 2. Typical Instantaneous Forward Characteristics

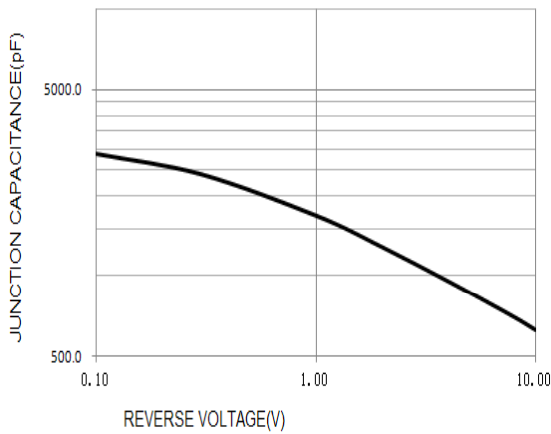


Figure 3. Typical Junction Capacitance

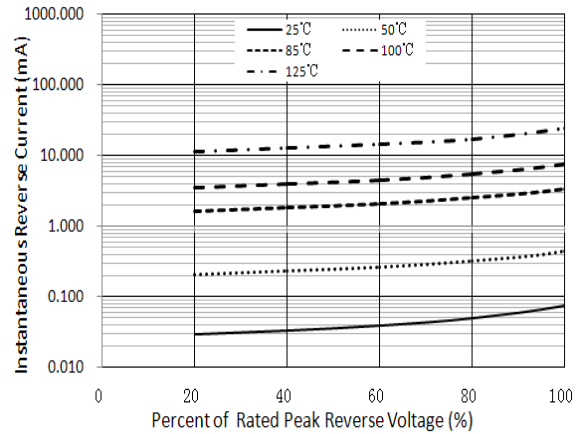


Figure 4. Typical Reverse Characteristics

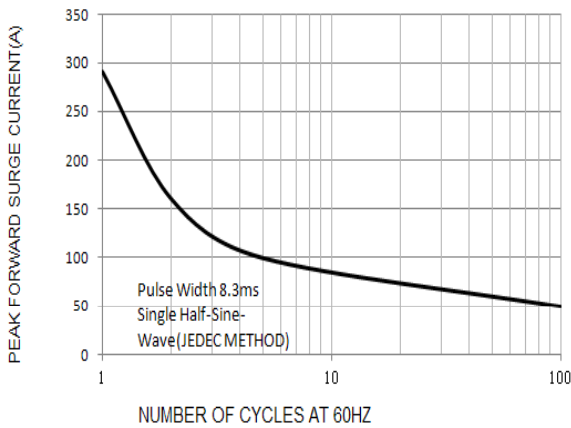
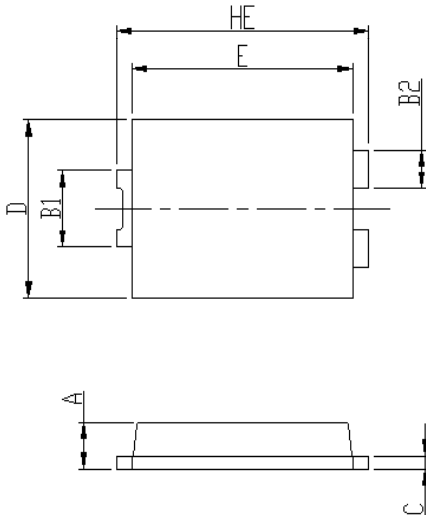


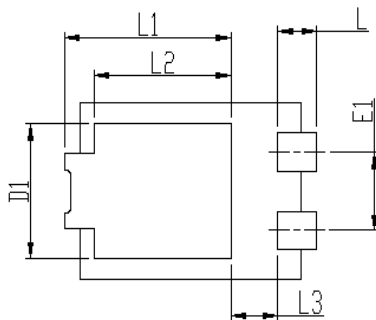
Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

Package Outline Dimensions

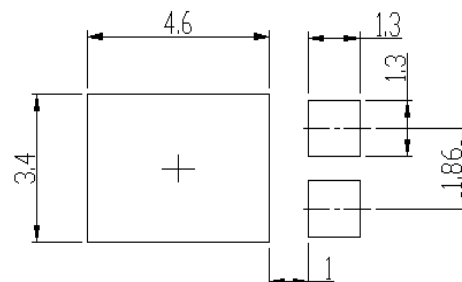
in inches (millimeters)



| 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

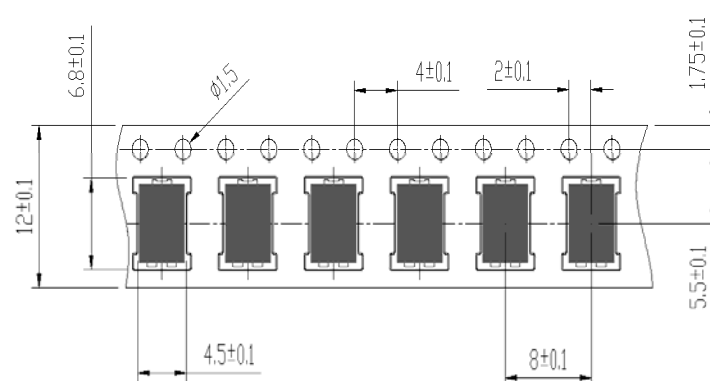


Packing Information

Packing quantities:

5000 pcs/Reel, 12mm Tape, 13" Reel

Tape & Reel Specification





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