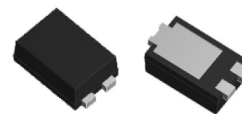
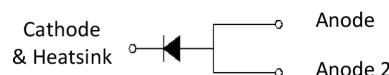


## Features

- Glass passivated standard rectifiers
- Ideal for automated placement
- Low forward voltage drop
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Low profile - typical height of 1.1 mm



eSGC (TO-277)



## Typical Applications

For use of general purpose rectification in lighting, cellular phone, portable device, power supplies, and other consumer applications.

### Maximum Ratings (TA = 25 °C unless otherwise noted)

| Parameter                                                                          | Symbol      | SGC0301<br>A  | SGC0302<br>A | SGC0303<br>A | SGC0304<br>A | SGC0305<br>A | SGC0306<br>A | SGC0307<br>A | Unit |
|------------------------------------------------------------------------------------|-------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|------|
| Maximum repetitive peak reverse voltage                                            | VRRM        | 50            | 100          | 200          | 400          | 600          | 800          | 1000         | V    |
| Maximum RMS voltage                                                                | VRMS        | 35            | 70           | 140          | 280          | 420          | 560          | 700          | V    |
| Maximum DC blocking voltage                                                        | VDC         | 50            | 100          | 200          | 400          | 600          | 800          | 1000         | V    |
| Maximum average forward rectified current                                          | IF(AV)      | 3.0           |              |              |              |              |              |              | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | IFSM        | 80            |              |              |              |              |              |              | A    |
| Operating junction and storage temperature range                                   | TJ,<br>TSTG | - 55 to + 150 |              |              |              |              |              |              | °C   |

### Electrical Characteristics (TA = 25 °C unless otherwise noted)

| Parameter                                               | Test Conditions     | Symbol           | SGC0301<br>A | SGC0302<br>A | SGC0303<br>A | SGC0304<br>A | SGC0305<br>A | SGC0306<br>A | SGC0307<br>A | Unit  |
|---------------------------------------------------------|---------------------|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| Maximum instantaneous forward voltage                   | IF=3 A , TA=25°C    | VF               | 1.1          |              |              |              |              |              |              | Volts |
| Maximum DC reverse current at rated DC blocking voltage | TA=25°C             | IR               | 10           |              |              |              |              |              |              | μA    |
|                                                         | TA=125°C            |                  | 250          |              |              |              |              |              |              |       |
| Typical reverse recovery time                           | IF=0.5A, IR=1.0A,   | t <sub>rr</sub>  | 3            |              |              |              |              |              |              | uS    |
|                                                         | IR=0.25A            |                  |              |              |              |              |              |              |              |       |
| Typical junction capacitance                            | 4.0 V, 1 MHz        | CJ               | 25           |              |              |              |              |              |              | pF    |
| Typical thermal resistance <sup>1)</sup>                | junction to mount   | R <sub>θJM</sub> | 5            |              |              |              |              |              |              | °C/W  |
|                                                         | junction to ambient | R <sub>θJA</sub> | 35           |              |              |              |              |              |              |       |

Notes: 1) Thermal resistance R<sub>θJM</sub> is junction to mount. Mounted on P.C.B with 30\*30mm copper pad area

## Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

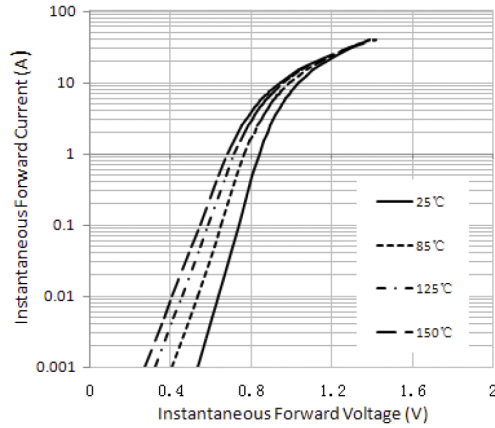


Figure 1. Typical Instantaneous Forward Characteristics

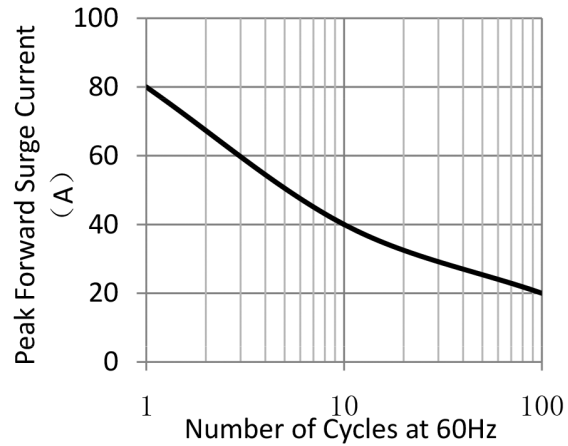


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

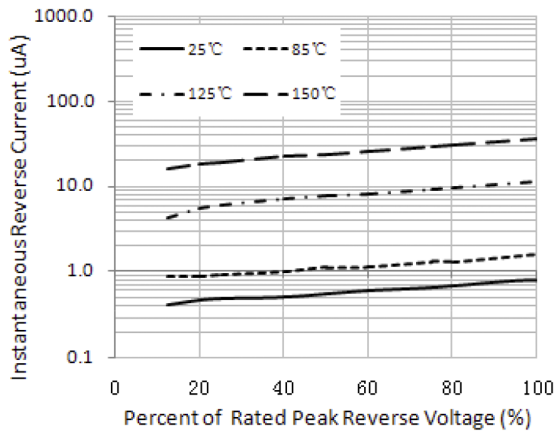


Figure 3. Typical Reverse Characteristics

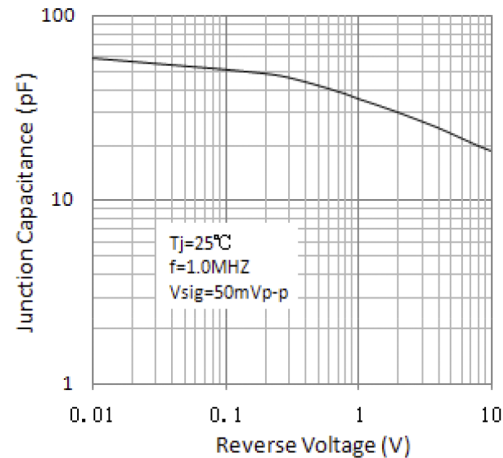


Figure 4. Typical Junction Capacitance

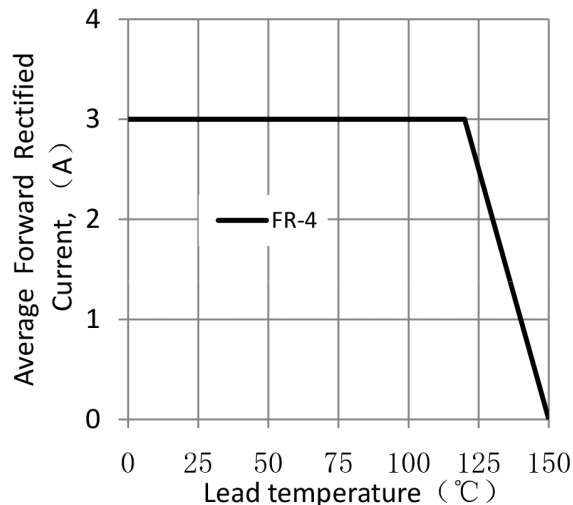
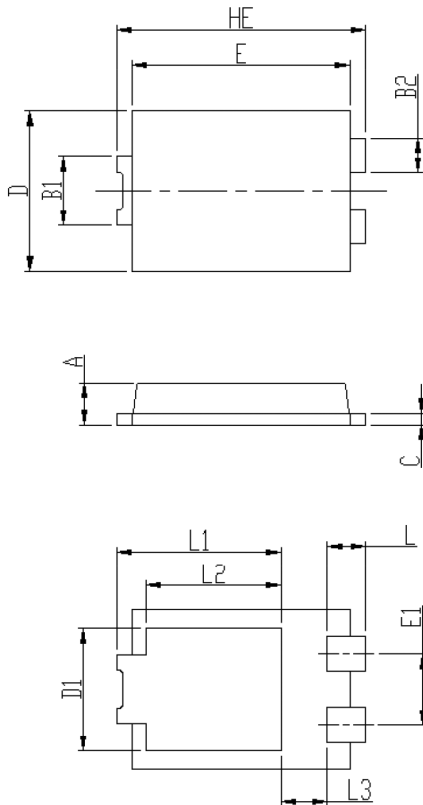


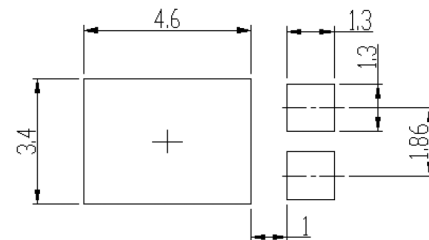
Figure 5. Forward Current Derating Curve

## 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

