

## SS20PU80

### Product profile

High Current Density Surface Mount Ultra Low VF

Schottky Rectifier

### General description

Rectifiers 20 Amp 80V

### Features

Very low profile - typical height of 1.1 mm

Ideal for automated placement

Low forward voltage drop, low power losses

High efficiency

Low thermal resistance

Meets MSL level 1, per J-STD-020

Solder dip 260 °C max. 10 s, per JESD 22-A111

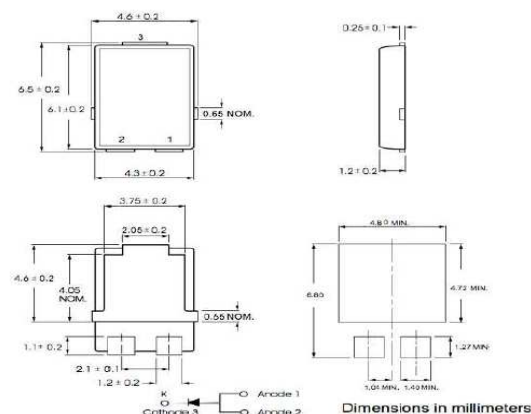
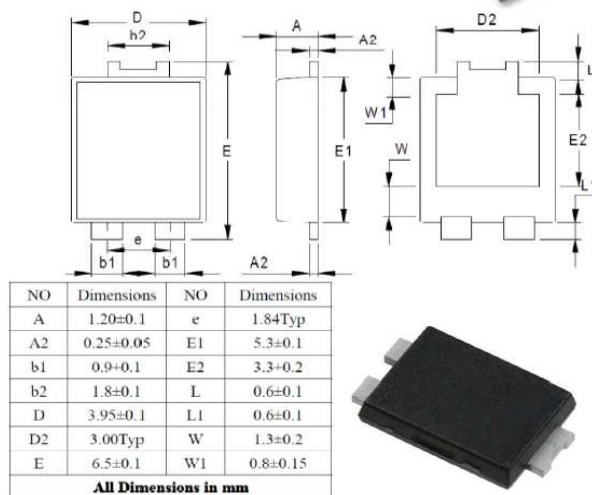
Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

### Mechanical data

Case: Conform to **JEDEC TO-277A**; Suffix **/A**

**Industry TO-277B**; Suffix **/B**

Molding compound meets UL 94 V-0 flammability



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

| Parameter                                                             | Symbol | SS20PU80    | Unit |
|-----------------------------------------------------------------------|--------|-------------|------|
| Maximum repetitive peak reverse voltage                               | VRRM   | 80          | V    |
| RMS Voltage (Max.)                                                    | VRMS   | 56          | V    |
| Working peak reverse voltage                                          | VRWM   | 80          | V    |
| Maximum average forward rectified current                             | IF(AV) | 20          | A    |
| Peak forward surge current                                            | IFSM   | 216         | A    |
| 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) |        |             |      |
| Operating junction temperature range                                  | TJ     | -55 to +150 | °C   |
| Storage temperature range                                             | TSTG   | -55 to +150 | °C   |

## SS20PU80

### THERMAL CHARACTERISTICS

| Parameter                  | Symbol        | Value | Unit |
|----------------------------|---------------|-------|------|
| Typical thermal resistance | R $\theta$ JC | 3     | °C/W |

Notes: (1) Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle

(2) Pulse test: Pulse width  $\leq$  40

### Electrical characteristics (T<sub>c</sub>=25°C unless otherwise noted)

#### OFF CHARACTERISTICS

| Parameter                                             | Symbol         | Value   |      | Unit    |
|-------------------------------------------------------|----------------|---------|------|---------|
|                                                       |                | Typical | Max  |         |
| Instantaneous forward voltage                         | V <sub>F</sub> |         |      | V       |
| at I <sub>F</sub> =5A, T <sub>j</sub> =25°C           |                | 0.46    | 0.50 |         |
| at I <sub>F</sub> =20A, T <sub>j</sub> =25°C          |                | 0.67    | 0.73 |         |
| at I <sub>F</sub> =5A, T <sub>j</sub> =125°C          |                | 0.39    | 0.42 |         |
| at I <sub>F</sub> =20A, T <sub>j</sub> =125°C         |                | 0.63    | 0.67 |         |
| Maximum reverse current T <sub>j</sub> =25°C          | I <sub>R</sub> | 60      |      | $\mu$ A |
| at working peak reverse voltage T <sub>j</sub> =125°C |                | 50      |      | mA      |

### DEVICE MARK

SS20PU80

### ■ Characteristic Curves

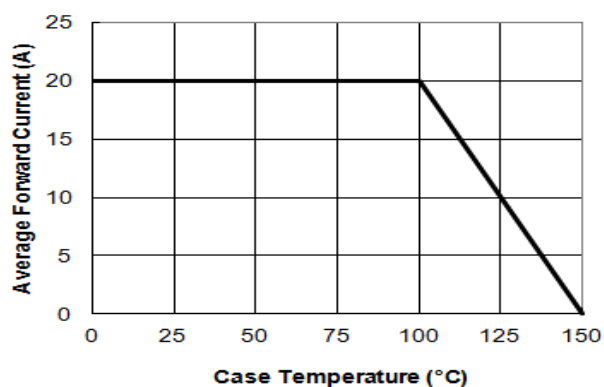


Figure 1. Forward Current Derating Curve

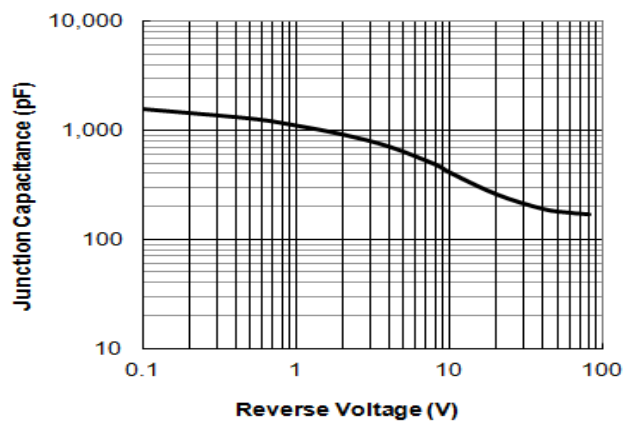


Figure 2. Typical Junction Capacitance

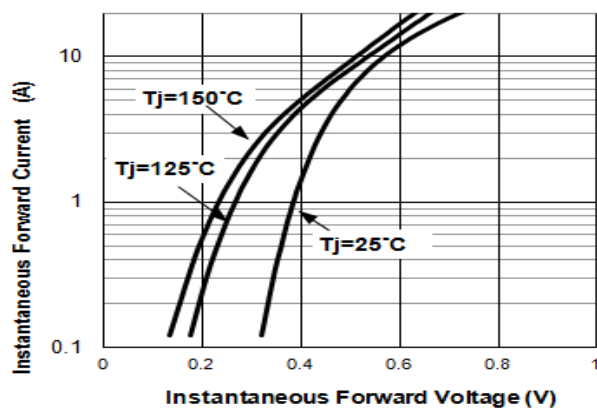


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

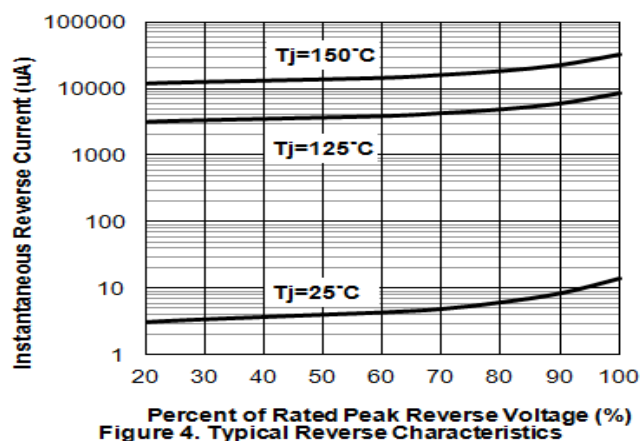


Figure 4. Typical Reverse Characteristics

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