

## Surface Mount Schottky Barrier Rectifier

**Reverse Voltage - 60 V**

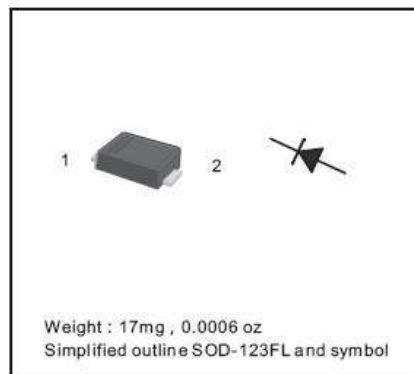
**Forward Current - 2.0A**

### Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



### Absolute Maximum Ratings and Electrical characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter                                                                                                    | Symbols     |            |          | Units |
|--------------------------------------------------------------------------------------------------------------|-------------|------------|----------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                      | $V_{RRM}$   | 60         |          | V     |
| Maximum RMS voltage                                                                                          | $V_{RMS}$   | 42         |          | V     |
| Maximum DC Blocking Voltage                                                                                  | $V_{DC}$    | 60         |          | V     |
| Maximum Average Forward Rectified Current                                                                    | $I_{F(AV)}$ | 2.0        |          | A     |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)            | $I_{FSM}$   | 50         | 40       | A     |
| Max Instantaneous Forward Voltage at 2 A                                                                     | $V_F$       | 0.70       | 0.85     | V     |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$<br>at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$ | $I_R$       | 0.5<br>10  | 0.3<br>5 | mA    |
| Typical Junction Capacitance <sup>1)</sup>                                                                   | $C_j$       | 220        | 80       | pF    |
| Operating Junction Temperature Range                                                                         | $T_j$       | -55 ~ +125 |          | °C    |
| Storage Temperature Range                                                                                    | $T_{stg}$   | -55 ~ +150 |          | °C    |

1) Measured at 1MHz and applied reverse voltage of 4 V D.C.

Fig.1 Forward Current Derating Curve

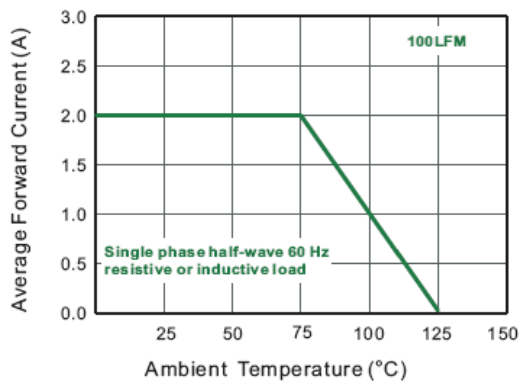


Fig.2 Typical Reverse Characteristics

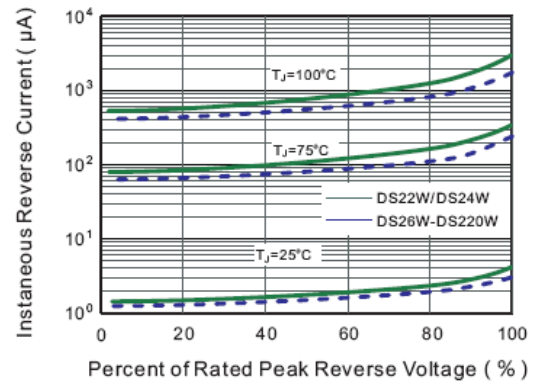


Fig.3 Typical Forward Characteristic

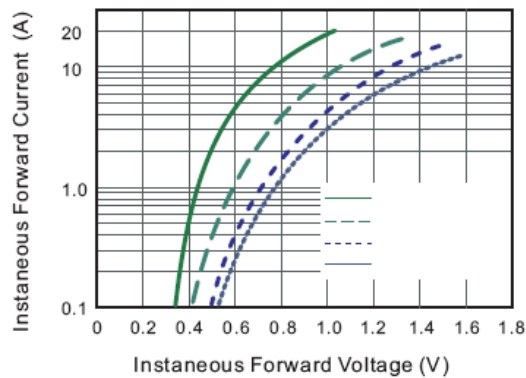


Fig.4 Typical Junction Capacitance

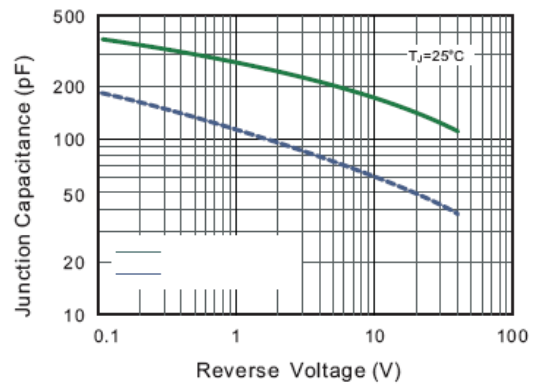
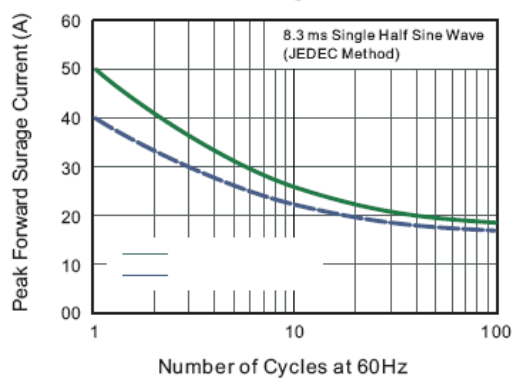


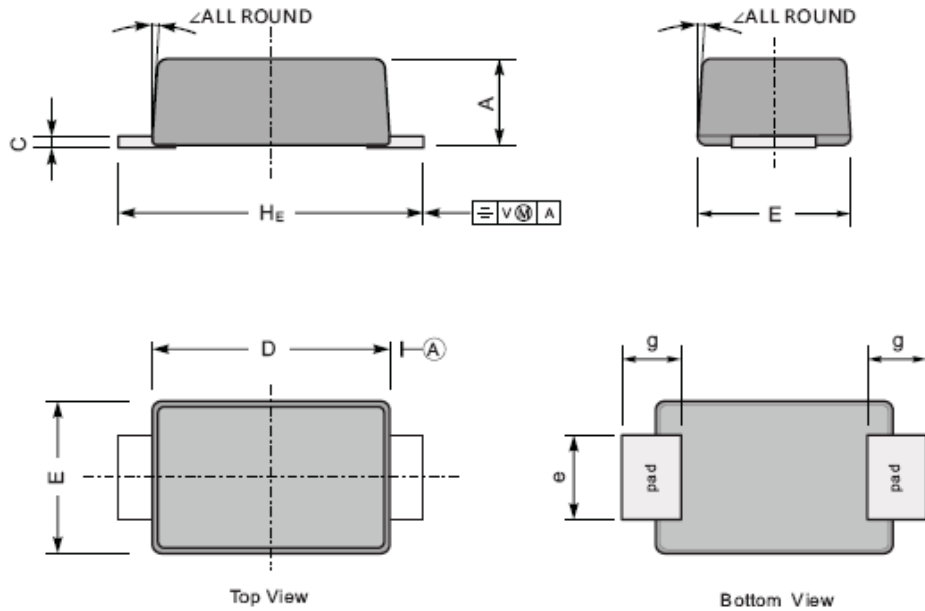
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



## PACKAGE OUTLINE

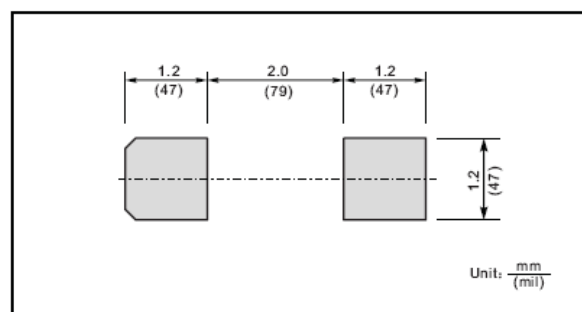
Plastic surface mounted package; 2 leads

SOD123FL

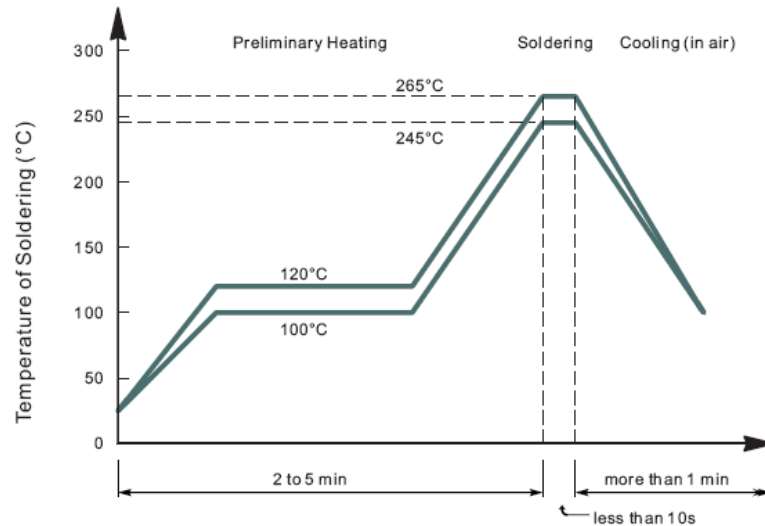


| UNIT |     | A   | C    | D   | E   | e   | g   | H <sub>E</sub> | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm   | max | 1.1 | 0.20 | 2.9 | 1.9 | 1.1 | 0.9 | 3.8            | 7° |
|      | min | 0.9 | 0.12 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5            |    |
| mil  | max | 43  | 7.9  | 114 | 75  | 43  | 35  | 150            |    |
|      | min | 35  | 4.7  | 102 | 67  | 31  | 28  | 138            |    |

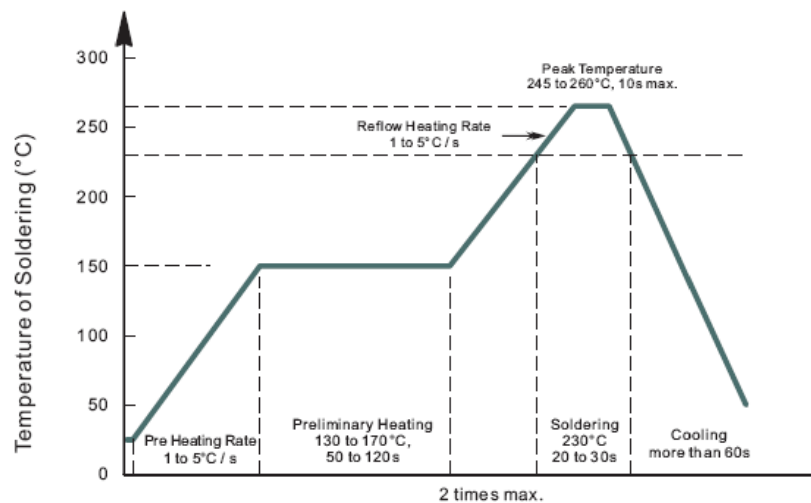
The recommended mounting pad size



• Recommended condition of flow soldering



• Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

• Condition of hand soldering

Temperature: 350°C  
 Time: 3s max.  
 Times: one time

• Remark:

Lead free solder paste (96.5Sn/3.0Ag/0.5Cu)