



# SK14WAL THRU SK16WAL

## Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 40 to 60 V

Forward Current - 1.0 A

### 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

### MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

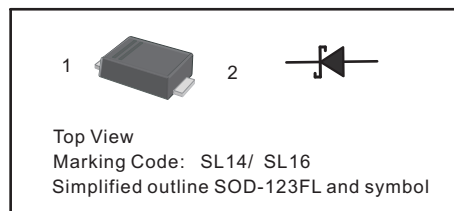
### Absolute Maximum Ratings and Electrical characteristics

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         | SK14WAL    | SK16WAL | Units         |
|---------------------------------------------------------------------------------------------------|-----------------|------------|---------|---------------|
| Maximum Repetitive Peak Reverse Voltage                                                           | $V_{RRM}$       | 40         | 60      | V             |
| Maximum RMS voltage                                                                               | $V_{RMS}$       | 28         | 42      | V             |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$        | 40         | 60      | V             |
| Maximum Average Forward Rectified Current                                                         | $I_{F(AV)}$     | 1.0        |         | A             |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$       | 30         |         | A             |
| Max Instantaneous Forward Voltage at 1 A                                                          | $V_F$           | 0.45       | 0.50    | V             |
| Maximum DC Reverse Current $T_a = 25^{\circ}C$ at Rated DC Reverse Voltage $T_a = 100^{\circ}C$   | $I_R$           | 0.2<br>5   |         | mA            |
| Typical Junction Capacitance <sup>(1)</sup>                                                       | $C_j$           | 180        | 80      | pF            |
| Typical Thermal Resistance <sup>(2)</sup>                                                         | $R_{\theta JA}$ | 90         |         | $^{\circ}C/W$ |
| Operating Junction Temperature Range                                                              | $T_j$           | -55 ~ +150 |         | $^{\circ}C$   |
| Storage Temperature Range                                                                         | $T_{stg}$       | -55 ~ +150 |         | $^{\circ}C$   |

### PINNING

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



Top View  
Marking Code: SL14/ SL16  
Simplified outline SOD-123FL and symbol

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

( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



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Fig.1 Forward Current Derating Curve

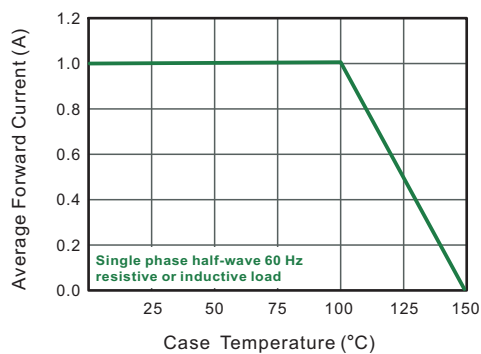


Fig.2 Typical Reverse Characteristics

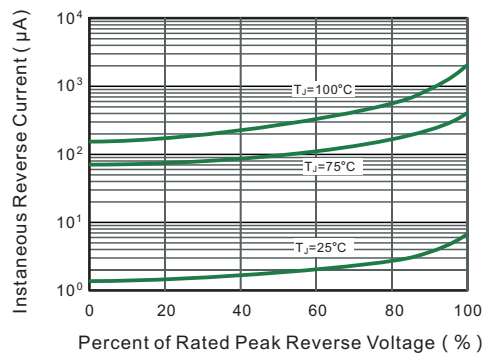


Fig.3 Typical Forward Characteristic

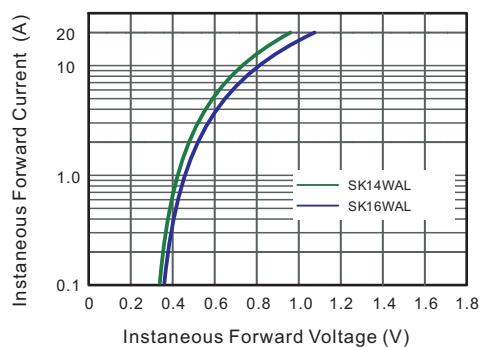


Fig.4 Typical Junction Capacitance

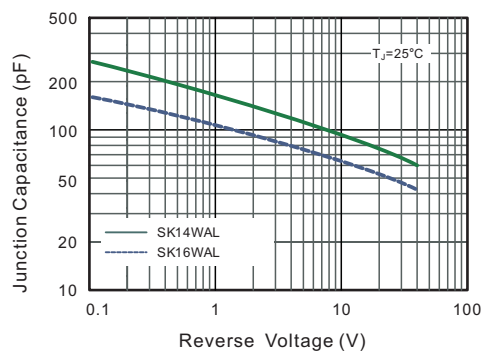


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

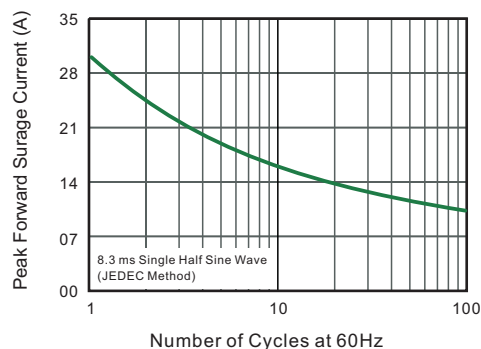
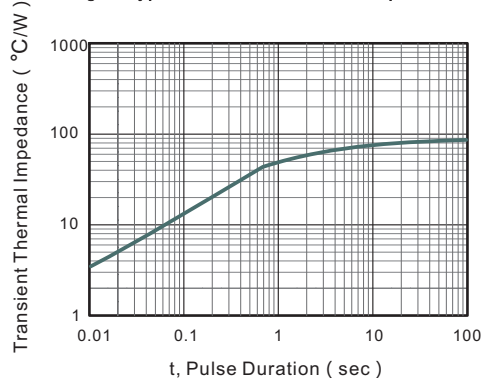


Fig.6- Typical Transient Thermal Impedance



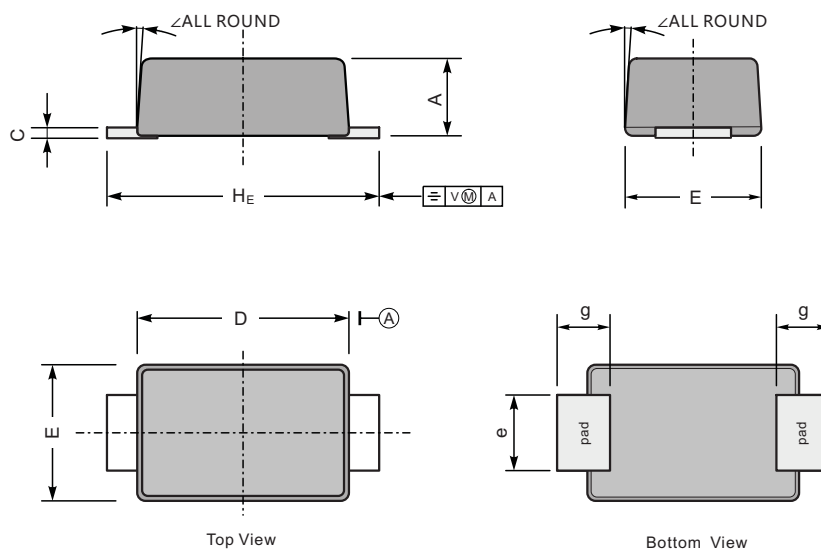


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## PACKAGE OUTLINE

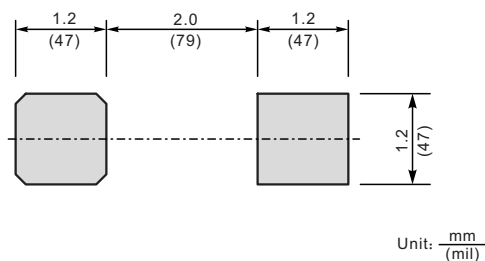
Plastic surface mounted package; 2 leads

SOD-123FL



| 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



## Marking

| Type number | Marking code |
|-------------|--------------|
| SK14WAL     | SL14         |
| SK16WAL     | SL16         |