COMPLIANT



Vishay General Semiconductor

Low V_F Surface Mount Schottky Rectifier



DO-214AC (SMA)

| PRIMARY CHARACTERISTICS | | | | |
|-------------------------|------------|--|--|--|
| I _{F(AV)} | 1.5 A | | | |
| V _{RRM} | 20 V, 30 V | | | |
| I _{FSM} | 50 A | | | |
| V _F | 0.34 V | | | |
| T _J max. | 125 °C | | | |

FEATURES

- · Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- · Low power losses, high efficiency
- Low power losses, riight emelenes
- Very low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in low voltage, high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-214AC (SMA)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

ilisker test

Polarity: Color band denotes the cathode end

| MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted) | | | | | |
|--|-------------------------------|---------------|------|------|--|
| PARAMETER | SYMBOL | SL12 | SL13 | UNIT | |
| Device marking code | | SL2 | SL3 | | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | V | |
| Maximum RMS voltage | S voltage V _{RMS} 14 | | 21 | V | |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | V | |
| Maximum average forward rectified current at $T_L = 105$ °C (Fig. 1) | I _{F(AV)} | 1.5 | | Α | |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 50 | | А | |
| Voltage rate of change (rated V _R) | dV/dt | 10 000 | | V/µs | |
| Operating junction temperature range | TJ | - 55 to + 125 | | °C | |
| Storage temperature range | T _{STG} | - 55 to | °C | | |

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| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | |
|---|--|--|----------------|--------------------------|------------|------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | SL12 | SL13 | UNIT |
| Maximum instantaneous forward voltage at ⁽¹⁾ | I _F = 0.1 A I _F = 1.0 A | $T_A = 125 ^{\circ}\text{C}$ $T_A = 25 ^{\circ}\text{C}$ $T_A = 125 ^{\circ}\text{C}$ $T_A = 25 ^{\circ}\text{C}$ | V _F | 0.2 0.3 0.3 0.4 | 660 640 | V |
| Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾ | | T _A = 25 °C T _A = 100 °C | I _R | 0. 6. | | mA |

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | |
|---|--------------------------------------|----------|------|------|--|
| PARAMETER | SYMBOL | SL12 | SL13 | UNIT | |
| Maximum thermal resistance (1) | R _{θJA} R _{θJL} | 88 28 | | °C/W | |

Note:

(1) P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas

| ORDERING INFORMATION (Example) | | | | | |
|--------------------------------|-----------------|------------------------|---------------|------------------------------------|--|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE | |
| SL13-E3/61T | 0.064 | 61T | 1800 | 7" diameter plastic tape and reel | |
| SL13-E3/5AT | 0.064 | 5AT | 7500 | 13" diameter plastic tape and reel | |
| SL13HE3/61T ⁽¹⁾ | 0.064 | 61T | 1800 | 7" diameter plastic tape and reel | |
| SL13HE3/5AT ⁽¹⁾ | 0.064 | 5AT | 7500 | 13" diameter plastic tape and reel | |

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

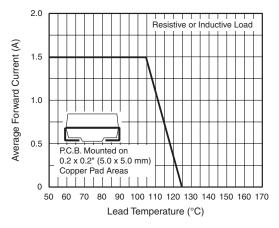


Figure 1. Forward Current Derating Curve

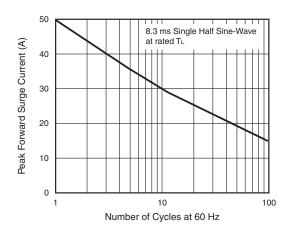


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current



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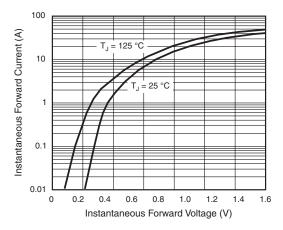


Figure 3. Typical Instantaneous Forward Characteristics

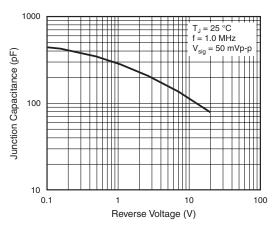


Figure 5. Typical Junction Capacitance

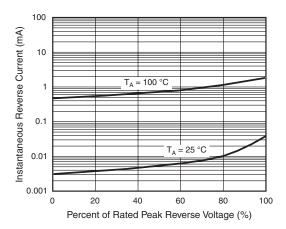
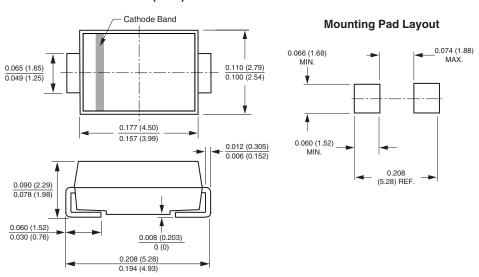


Figure 4. Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AC (SMA)





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