

## Surface-Mount Schottky Barrier Rectifier


**SMA (DO-214AC)**

Cathode — Anode

### FEATURES

- Low profile package
- Ideal for automated placement
- Low forward voltage drop, low power losses
- High efficiency
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### LINKS TO ADDITIONAL RESOURCES



#### PRIMARY CHARACTERISTICS

|                        |                |
|------------------------|----------------|
| $I_{F(AV)}$            | 3.0 A          |
| $V_{RRM}$              | 50 V, 60 V     |
| $I_{FSM}$              | 50 A           |
| $V_F$ at $I_F = 3.0$ A | 0.55 V         |
| $T_J$ max.             | 150 °C         |
| Package                | SMA (DO-214AC) |
| Circuit configurations | Single         |

### TYPICAL APPLICATIONS

For use in low voltage, high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

### MECHANICAL DATA

**Case:** SMA (DO-214AC)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 2 whisker test

**Polarity:** color band denotes the cathode end

#### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER  | SYMBOL         | B350A       | B360A | UNIT       |
|--|----------------|-------------|-------|------------|
| Device marking code  |                | B35         | B36   |            |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$      | 50          | 60    | V          |
| Maximum average forward rectified current (fig. 1)                                 | $I_{F(AV)}$    | 3.0         |       | A          |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$      | 50          |       | A          |
| Voltage rate of change (rated $V_R$ )  | $dV/dt$        | 10 000      |       | V/ $\mu$ s |
| Operating junction and storage temperature range                                   | $T_J, T_{STG}$ | -55 to +150 |       | °C         |

#### ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER                             | TEST CONDITIONS | SYMBOL               | TYP.           | MAX. | UNIT |         |
|---------------------------------------|-----------------|----------------------|----------------|------|------|---------|
| Maximum instantaneous forward voltage | $I_F = 3.0$ A   | $V_F$ <sup>(1)</sup> | $T_A = 25$ °C  | 0.64 | 0.72 | V       |
|                                       |                 |                      | $T_A = 125$ °C | 0.55 | 0.62 |         |
| Maximum reverse current               | Rated $V_R$     | $I_R$ <sup>(2)</sup> | $T_A = 25$ °C  | -    | 200  | $\mu$ A |
|                                       |                 |                      | $T_A = 125$ °C | 2.9  | 10   | mA      |
| Typical junction capacitance          | 4.0 V, 1 MHz    | $C_J$                | 145            | -    | pF   |         |

#### Notes

<sup>(1)</sup> Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle

<sup>(2)</sup> Pulse test: Pulse width  $\leq$  40 ms



| THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                     |       |       |                    |
|--|---------------------|-------|-------|--------------------|
| PARAMETER  | SYMBOL              | B350A | B360A | UNIT               |
| Typical thermal resistance   | $R_{\theta JA}$ (1) | 72    |       | $^\circ\text{C/W}$ |
|  | $R_{\theta JL}$ (1) | 12    |       |                    |

**Note**

(1) PCB, mounted with 0.32" x 0.32" (8 mm x 8 mm) copper pad areas.  $T_L$  measured at lead terminal mount.

| ORDERING INFORMATION (Example) |                 |                        |               |                                    |
|--------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
| B360A-E3/61T                   | 0.064           | 61T                    | 1800          | 7" diameter plastic tape and reel  |
| B360A-E3/5AT                   | 0.064           | 5AT                    | 7500          | 13" diameter plastic tape and reel |

**RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)**

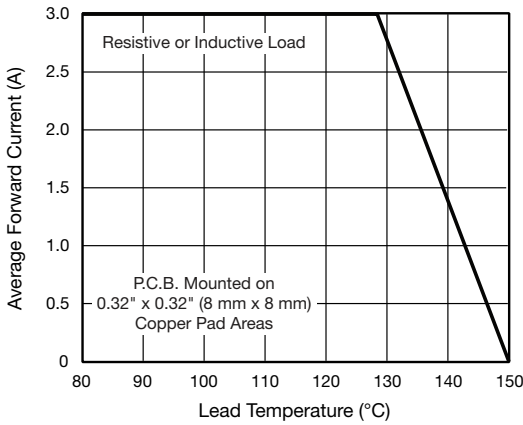


Fig. 1 - Forward Current Derating Curve

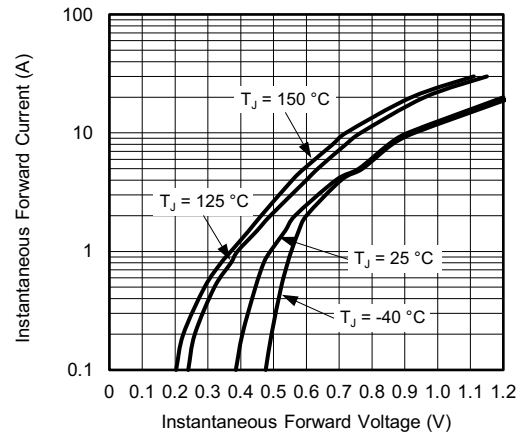


Fig. 3 - Typical Instantaneous Forward Characteristics

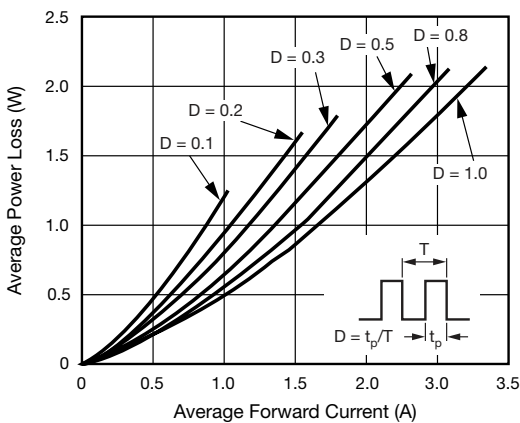


Fig. 2 - Forward Power Loss Characteristics

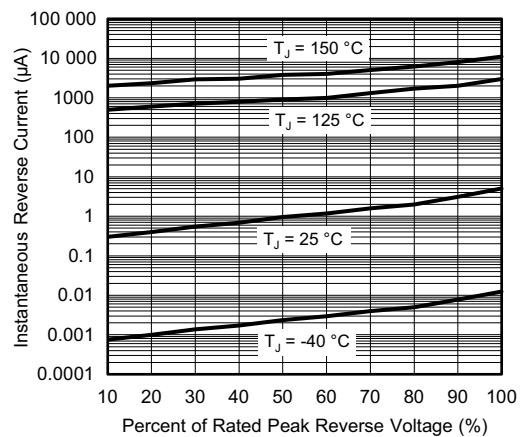


Fig. 4 - Typical Reverse Characteristics

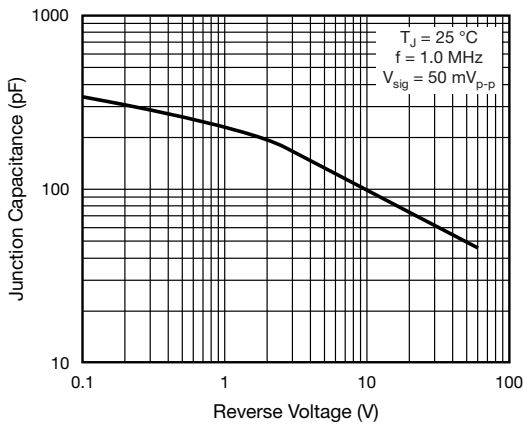
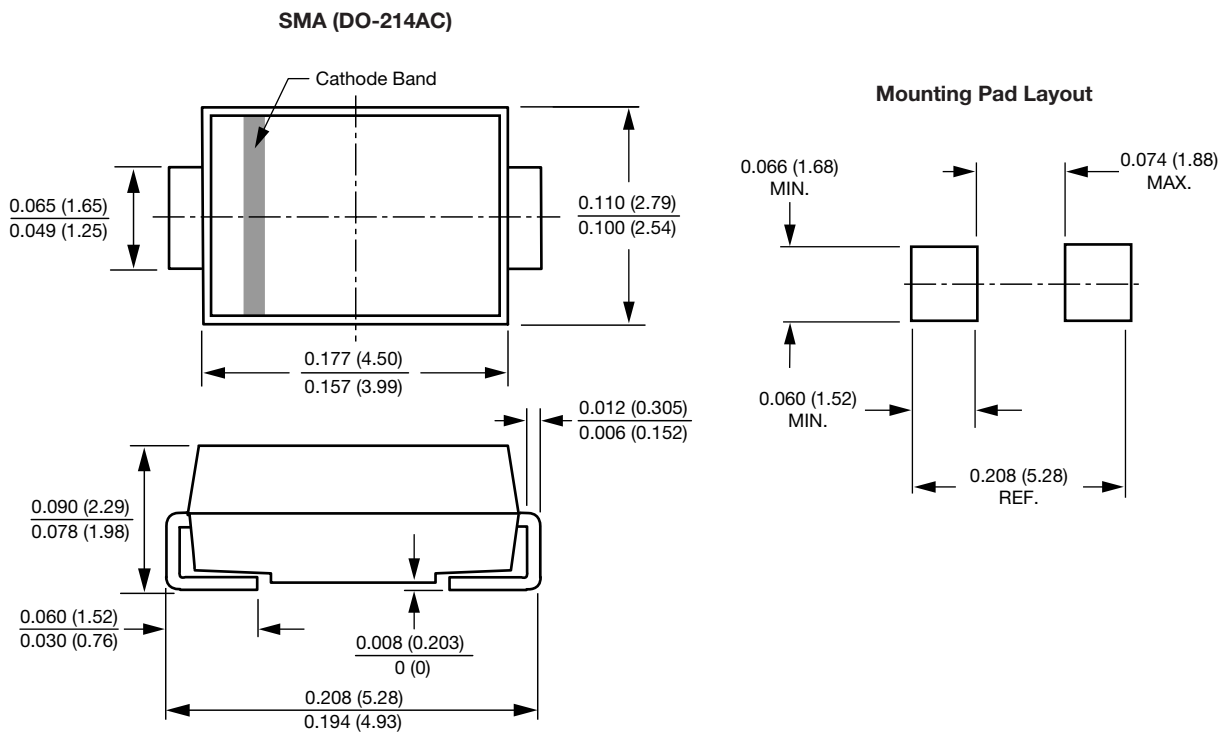


Fig. 5 - Typical Junction Capacitance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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