

## Surface Mount Schottky Barrier Rectifier



DO-214AC (SMA)

### 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

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

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

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

| 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                 | DO-214AC (SMA) |
| Diode variations        | Single die     |

| 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         |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                      |                                   |             |      |      |               |
|--|----------------------|-----------------------------------|-------------|------|------|---------------|
| PARAMETER  | TEST CONDITIONS      | SYMBOL                            | TYP.        | MAX. | UNIT |               |
| Maximum instantaneous forward voltage  | $I_F = 3.0\text{ A}$ | $T_A = 25\text{ }^\circ\text{C}$  | $V_F^{(1)}$ | 0.64 | 0.72 | V             |
|  |                      | $T_A = 125\text{ }^\circ\text{C}$ |             | 0.55 |      |               |
| Maximum reverse current  | Rated $V_R$          | $T_A = 25\text{ }^\circ\text{C}$  | $I_R^{(2)}$ | -    | 200  | $\mu\text{A}$ |
|  |                      | $T_A = 125\text{ }^\circ\text{C}$ |             | 2.9  | 10   | mA            |
| Typical junction capacitance   | 4.0 V, 1 MHz         | $C_J$                             | 145         | -    | pF   |               |

**Notes**

- (1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle  
 (2) Pulse test: Pulse width  $\leq 40\text{ ms}$

| <b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ 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.

| <b>ORDERING INFORMATION</b> (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 |

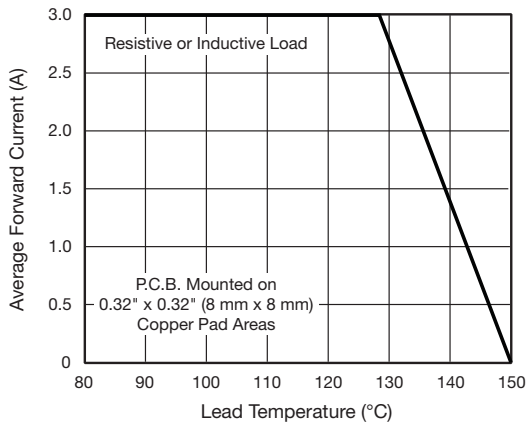
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

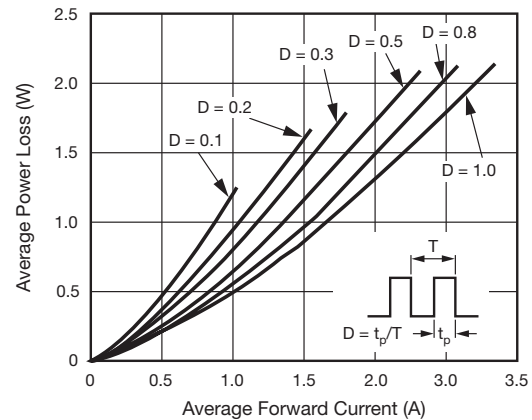


Fig. 2 - Forward Power Loss Characteristics

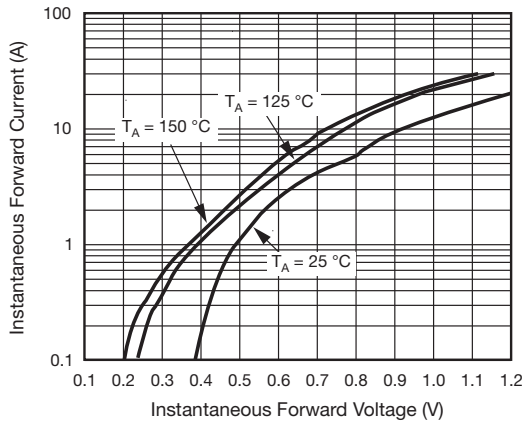


Fig. 3 - Typical Instantaneous Forward Characteristics

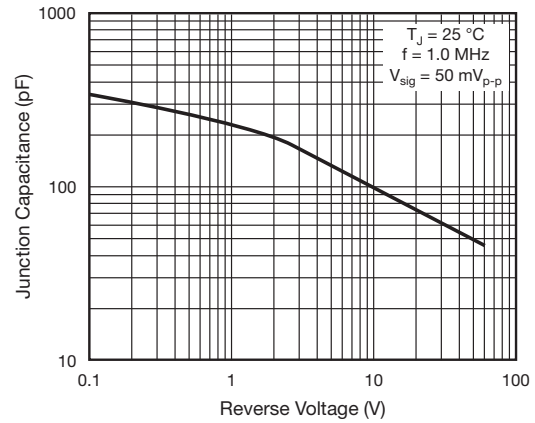


Fig. 5 - Typical Junction Capacitance

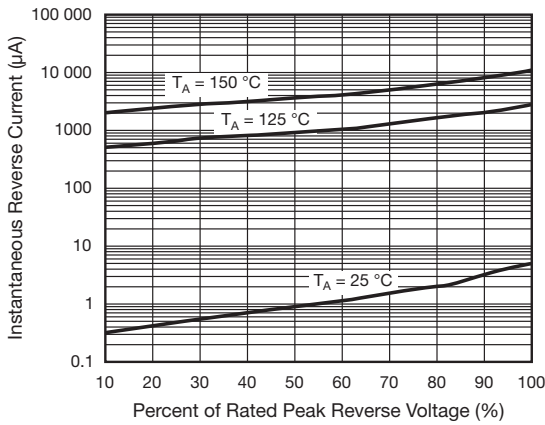
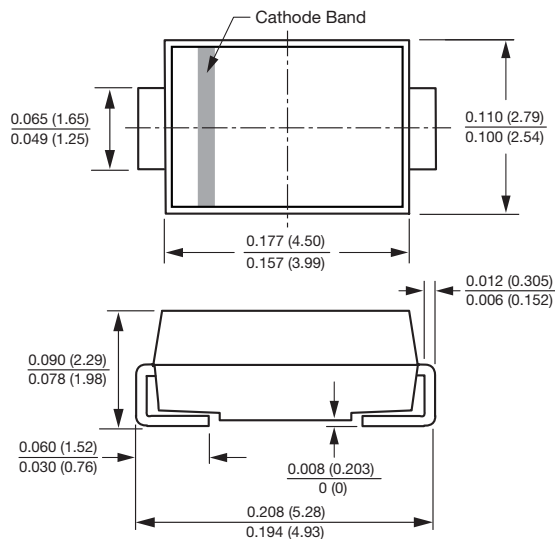


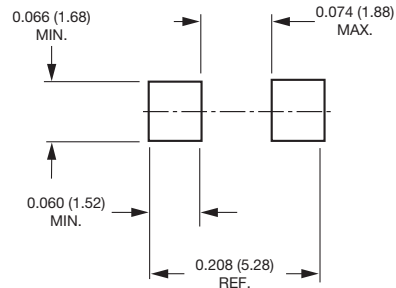
Fig. 4 - Typical Reverse Characteristics

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

**DO-214AC (SMA)**



**Mounting Pad Layout**





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