

# 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)



## 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 <sub>A</sub> = 25 °C unless otherwise noted) |                        |                         |                               |      |      |      |
|----------------------------------------------------------------------------|------------------------|-------------------------|-------------------------------|------|------|------|
| PARAMETER                                                                  | TEST CONDITIONS        |                         | SYMBOL                        | TYP. | MAX. | UNIT |
| Maximum instantaneous forward voltage                                      | I <sub>F</sub> = 3.0 A | T <sub>A</sub> = 25 °C  | V <sub>F</sub> <sup>(1)</sup> | 0.64 | 0.72 | V    |
|                                                                            |                        | T <sub>A</sub> = 125 °C |                               | 0.55 | 0.62 |      |
| Maximum reverse current                                                    | Rated V <sub>R</sub>   | T <sub>A</sub> = 25 °C  | I <sub>R</sub> <sup>(2)</sup> | -    | 200  | μA   |
|                                                                            |                        | T <sub>A</sub> = 125 °C |                               | 2.9  | 10   | mA   |
| Typical junction capacitance                                               | 4.0 V, 1 MHz           |                         | C <sub>J</sub>                | 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    |       | °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 |

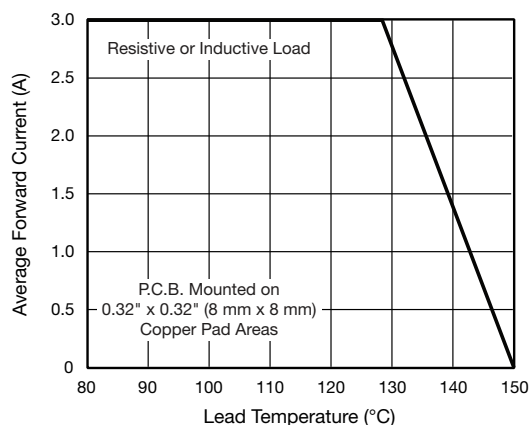
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

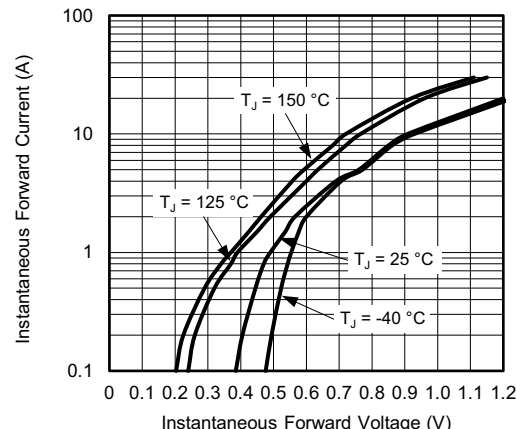


Fig. 3 - Typical Instantaneous Forward Characteristics

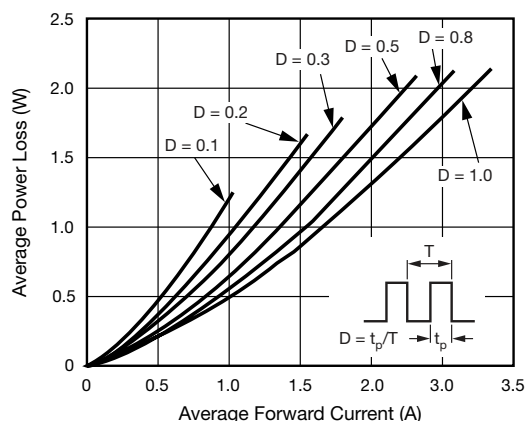


Fig. 2 - Forward Power Loss Characteristics

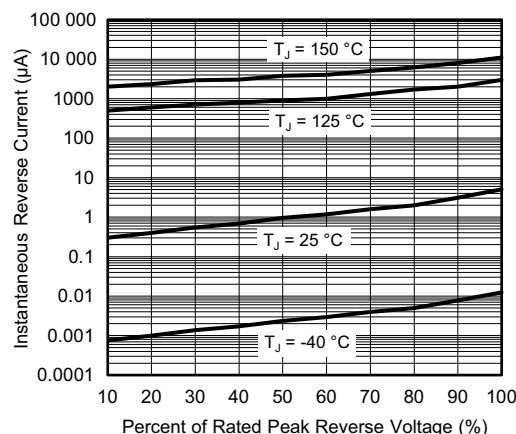


Fig. 4 - Typical Reverse Characteristics

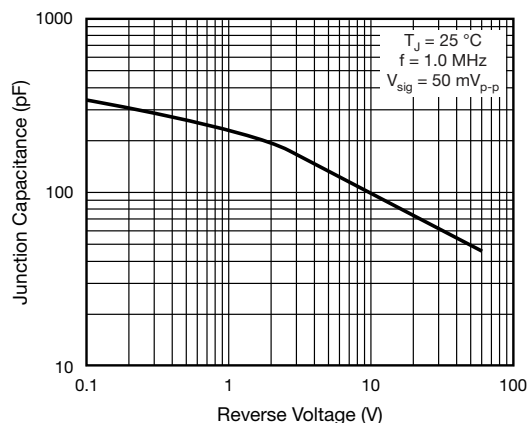
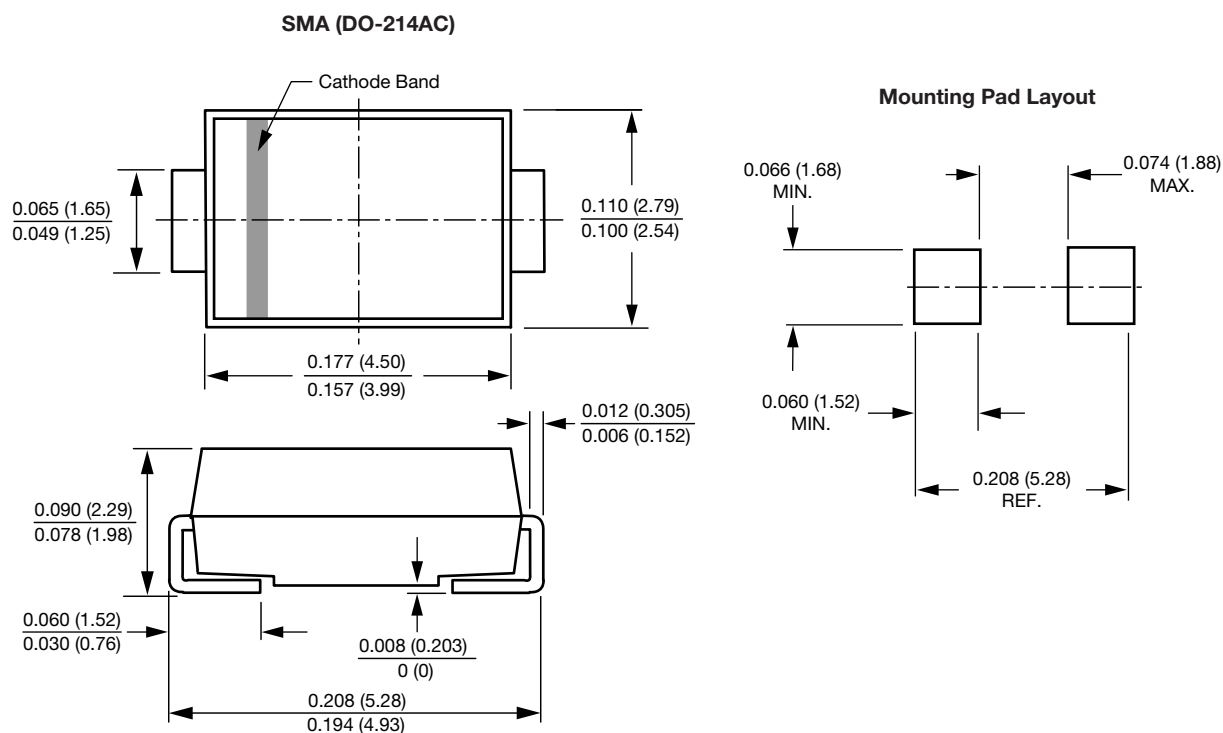


Fig. 5 - Typical Junction Capacitance

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




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