

## 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 1A 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     |

| 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** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

| PARAMETER                             | TEST CONDITIONS      | SYMBOL      | TYP. | MAX. | UNIT          |
|---------------------------------------|----------------------|-------------|------|------|---------------|
| Maximum instantaneous forward voltage | $I_F = 3.0\text{ A}$ | $V_F^{(1)}$ | 0.64 | 0.72 | V             |
|                                       |                      |             | 0.55 | 0.62 |               |
| Maximum reverse current               | Rated $V_R$          | $I_R^{(2)}$ | -    | 200  | $\mu\text{A}$ |
|                                       |                      |             | 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  $\leq 40\text{ ms}$ 
**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) P.C.B. 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**

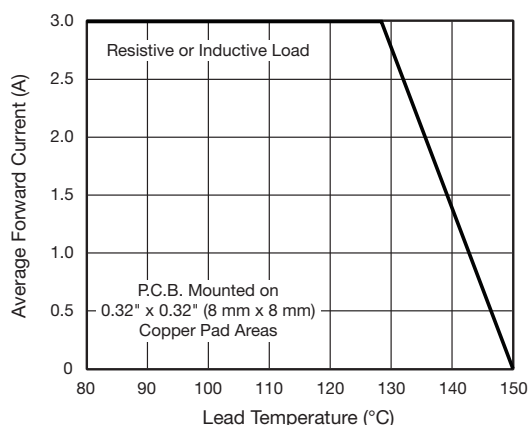
( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

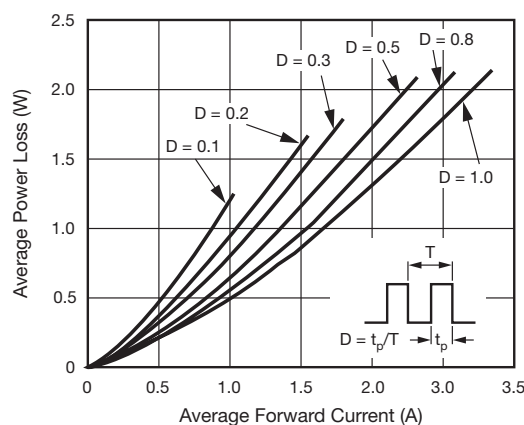


Fig. 2 - Forward Power Loss Characteristics

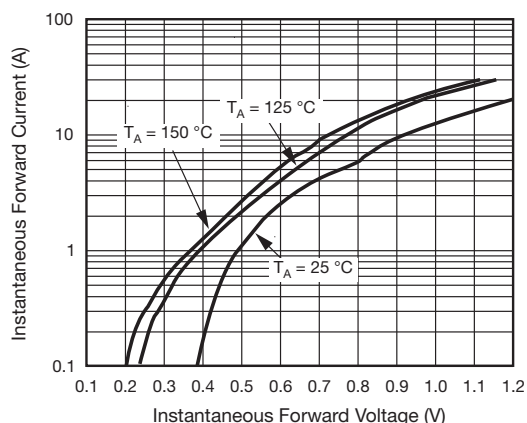


Fig. 3 - Typical Instantaneous Forward Characteristics

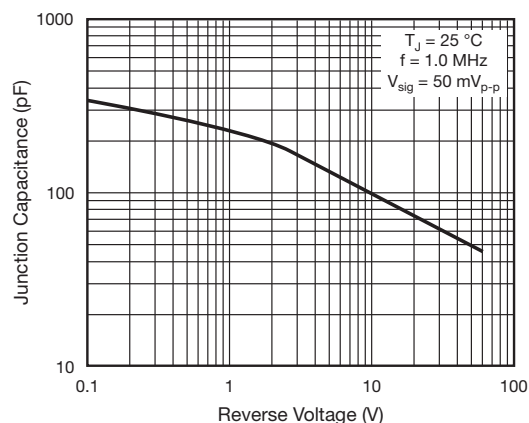


Fig. 5 - Typical Junction Capacitance

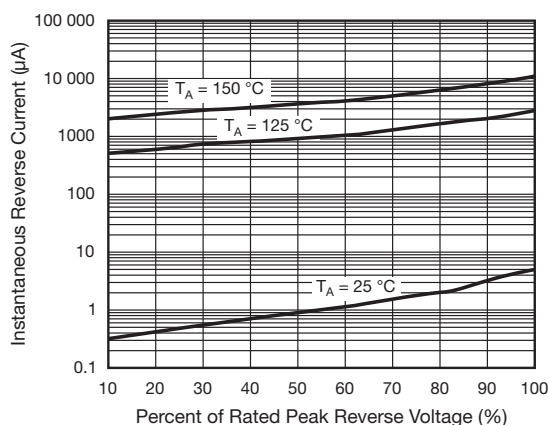
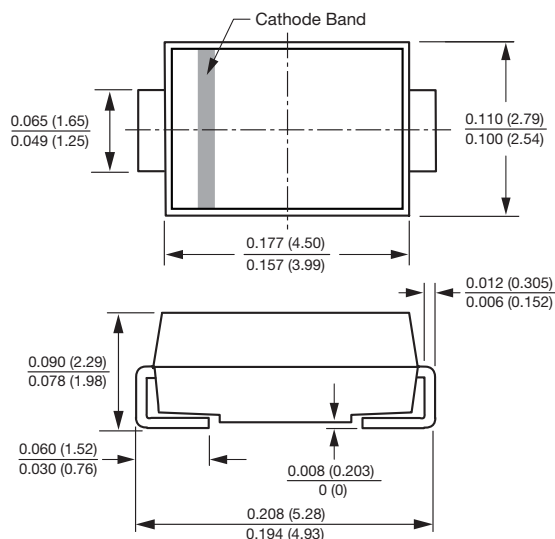


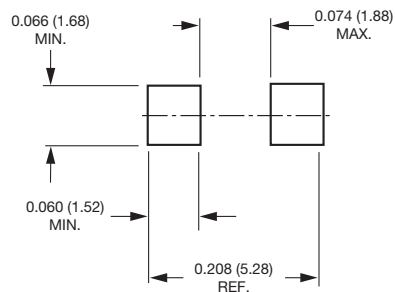
Fig. 4 - Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-214AC (SMA)



### Mounting Pad Layout





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