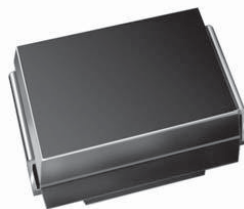


# Surface Mount Schottky Rectifier



DO-214AA (SMB)

## FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- 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-214AA (SMB)

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 |
| $I_{FSM}$              | 60 A       |
| $V_F$ at $I_F = 3.0$ A | 0.51 V     |
| $T_J$ max.             | 150 °C     |

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

| PARAMETER                                                                          | SYMBOL         | B350B         | B360B | UNIT |
|------------------------------------------------------------------------------------|----------------|---------------|-------|------|
| Device marking code                                                                |                | B35           | B36   |      |
| Maximum repetitive peak reverse voltage                                            | $V_{RRM}$      | 50            | 60    | V    |
| Maximum average forward rectified current at $T_L$ (fig. 1)                        | $I_{F(AV)}$    | 3.0           |       | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$      | 60            |       | A    |
| 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   | $T_J = 25$ °C  | $V_F^{(1)}$ | 0.58 | 0.66 | V    |
|                                       |                 | $T_J = 125$ °C |             | 0.51 | 0.59 |      |
| Maximum reverse current               | Rated $V_R$     | $T_J = 25$ °C  | $I_R^{(2)}$ | -    | 100  | μA   |
|                                       |                 | $T_J = 125$ °C |             | 3    | 10   | mA   |

### Notes

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

(2) Pulse test: Pulse width ≤ 40 ms

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

| PARAMETER                  | SYMBOL                          | B350B | B360B | UNIT |
|----------------------------|---------------------------------|-------|-------|------|
| Typical thermal resistance | R <sub>θJA</sub> <sup>(1)</sup> | 70    |       | °C/W |
|                            | R <sub>θJM</sub> <sup>(1)</sup> | 15    |       |      |

**Note**

<sup>(1)</sup> P.C.B. mounted with 0.4" x 0.4" (10 mm x 10 mm) copper pad areas, thermal resistance  $R_{\theta JA}$  - junction to ambient,  $R_{\theta JM}$  - junction to mount

**ORDERING INFORMATION** (Example)

| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
|---------------|-----------------|------------------------|---------------|------------------------------------|
| B360B-E3/52T  | 0.096           | 52T                    | 750           | 7" diameter plastic tape and reel  |
| B360B-E3/5BT  | 0.096           | 5BT                    | 3200          | 13" diameter plastic tape and reel |

**RATINGS AND CHARACTERISTICS CURVES**

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

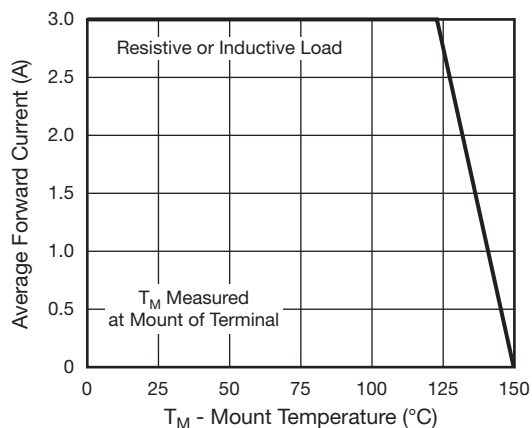


Fig. 1 - Maximum Forward Current Derating Curve

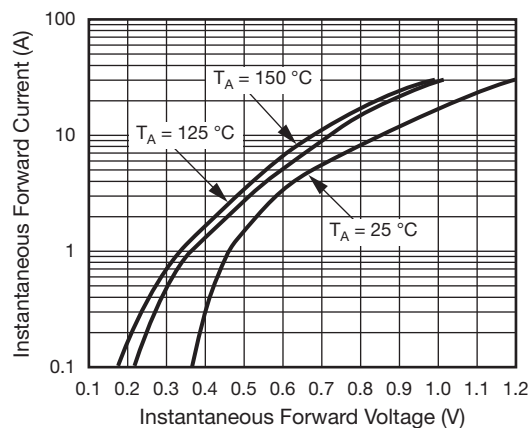


Fig. 3 - Typical Instantaneous Forward Characteristics

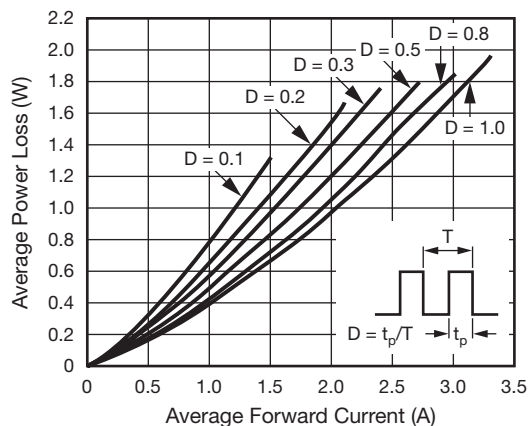


Fig. 2 - Forward Power Loss Characteristics

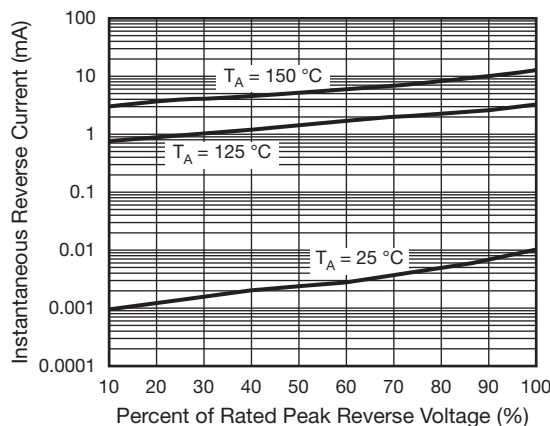


Fig. 4 - Typical Reverse Leakage Characteristics

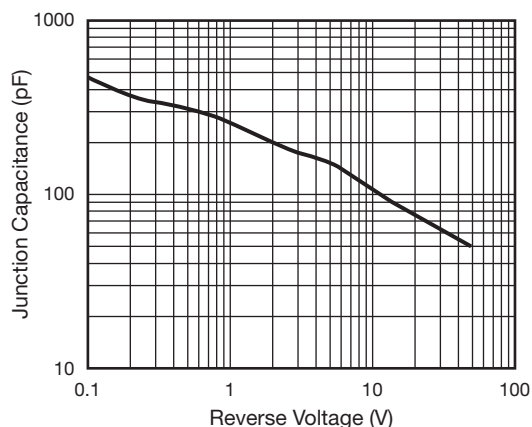
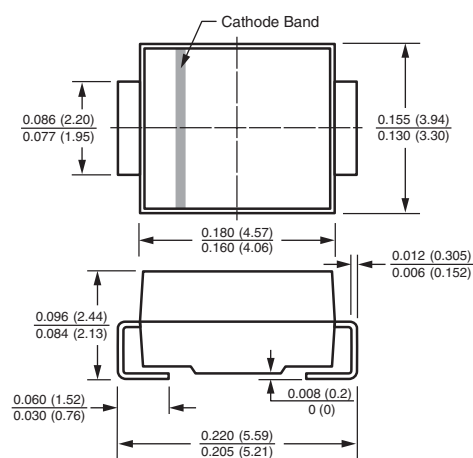
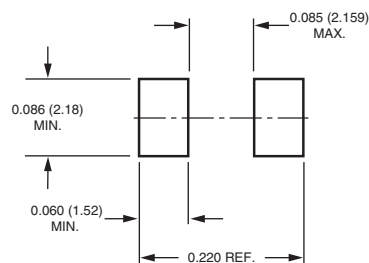


Fig. 5 - Typical Junction Capacitance

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

**DO-214AA (SMB)**

**Mounting Pad Layout**




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