

Surface-Mount Schottky Barrier Rectifier


SMA (DO-214AC)

Cathode  Anode

LINKS TO ADDITIONAL RESOURCES



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


RoHS
COMPLIANT
HALOGEN
FREE

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-M3 - halogen-free, RoHS-compliant, and commercial grade

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

M3 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 | SMA (DO-214AC) |
| Circuit configuration | Single |

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/μs |
| 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 | $T_A = 25$ °C | V_F (1) | 0.64 | 0.72 | V |
| | | $T_A = 125$ °C | | 0.55 | 0.62 | |
| Maximum reverse current | Rated V_R | $T_A = 25$ °C | I_R (2) | - | 200 | μA |
| | | $T_A = 125$ °C | | 2.9 | 10 | |
| Typical junction capacitance | 4.0 V, 1 MHz | | C_J | 145 | - | pF |

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 | 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-M3/61T | 0.064 | 61T | 1800 | 7" diameter plastic tape and reel |
| B360A-M3/5AT | 0.064 | 5AT | 7500 | 13" diameter plastic tape and reel |

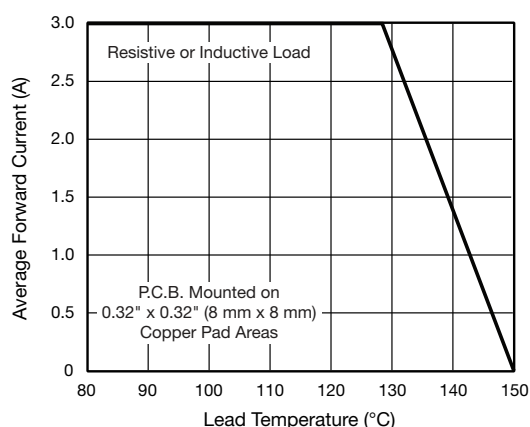
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

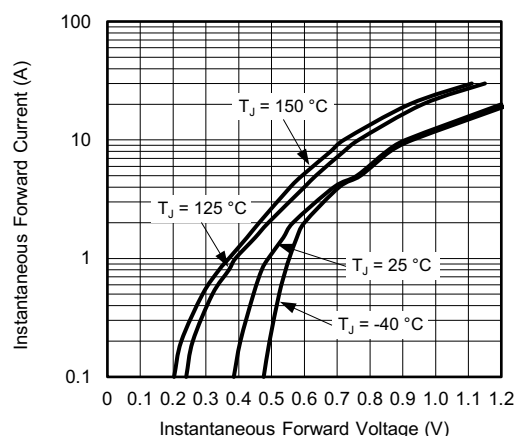


Fig. 3 - Typical Instantaneous Forward Characteristics

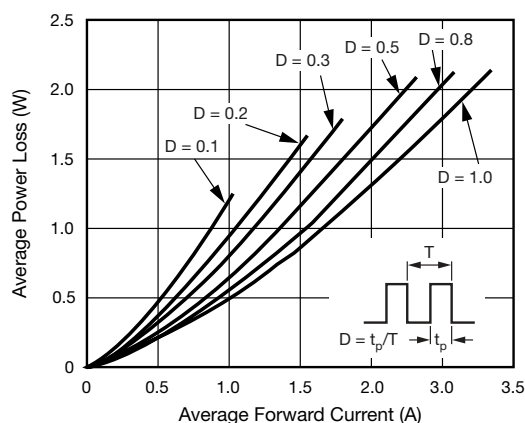


Fig. 2 - Forward Power Loss Characteristics

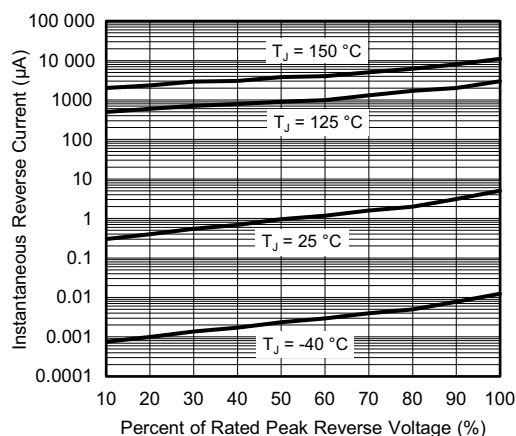


Fig. 4 - Typical Reverse Characteristics

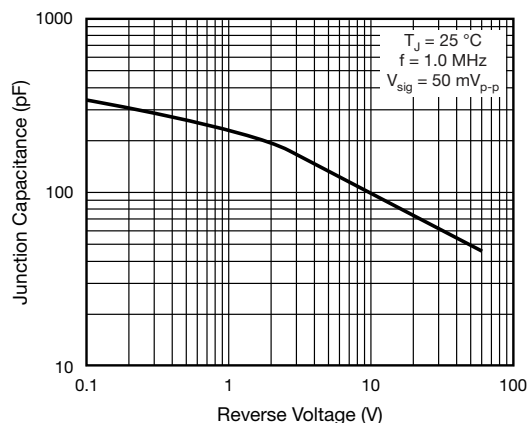
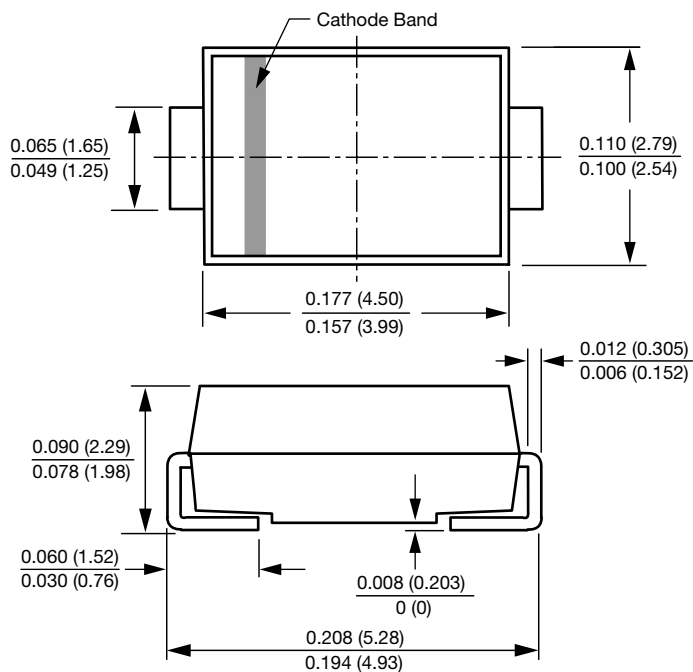
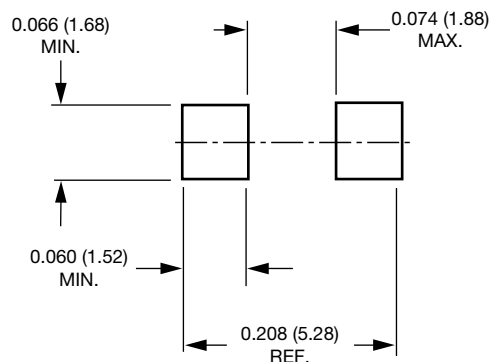


Fig. 5 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMA (DO-214AC)

Mounting Pad Layout




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