

# SB360-E3/54 Datasheet



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|                              |  |
|------------------------------|--|
| DiGi Electronics Part Number | SB360-E3/54-DG   |
| Manufacturer                 | <a href="#">Vishay General Semiconductor - Diodes Division</a> |
| Manufacturer Product Number  | SB360-E3/54  |
| Description                  | SCHOTTKY DO201 60V 3A 150C                                     |
| Detailed Description         | Diode 60 V 3A Through Hole DO-201AD                            |

This model SB360-E3/54 is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

SB360-E3/54

Series:

-

Technology:

Schottky

Current - Average Rectified (Io):

3A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Capacitance @ Vr, F:

-

Package / Case:

DO-201AD, Axial

Operating Temperature - Junction:

-65°C ~ 150°C

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

60 V

Voltage - Forward (Vf) (Max) @ If:

680 mV @ 3 A

Current - Reverse Leakage @ Vr:

500 µA @ 60 V

Mounting Type:

Through Hole

Supplier Device Package:

DO-201AD

Base Product Number:

SB360

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

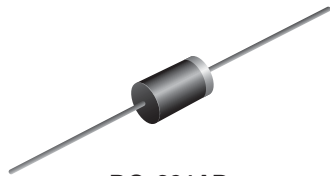
1 (Unlimited)

ECCN:

EAR99



## Schottky Barrier Plastic Rectifier



DO-201AD

## FEATURES

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- 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-201AD

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                        |
| $V_{RRM}$               | 20 V, 30 V, 40 V, 50 V, 60 V |
| $I_{FSM}$               | 120 A                        |
| $V_F$                   | 0.49 V, 0.68 V               |
| $T_J$ max.              | 125 °C, 150 °C               |
| Package                 | DO-201AD                     |
| Diode variations        | Single                       |

| MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)                     |             |               |       |       |               |       |      |
|--|-------------|---------------|-------|-------|---------------|-------|------|
| PARAMETER  | SYMBOL      | SB320         | SB330 | SB340 | SB350         | SB360 | UNIT |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$   | 20            | 30    | 40    | 50            | 60    | V    |
| Maximum RMS voltage  | $V_{RMS}$   | 14            | 21    | 28    | 35            | 42    | V    |
| Maximum DC blocking voltage  | $V_{DC}$    | 20            | 30    | 40    | 50            | 60    | V    |
| Maximum average forward rectified current at 0.375" (9.5 mm) lead length (fig. 1)  | $I_{F(AV)}$ | 3.0           |       |       |               |       | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$   | 120           |       |       |               |       | A    |
| Operating junction temperature range   | $T_J$       | - 65 to + 125 |       |       | - 65 to + 150 |       | °C   |
| Storage temperature range  | $T_{STG}$   | - 65 to + 150 |       |       |               |       | °C   |

| ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ °C}$ unless otherwise noted) |                       |           |       |       |       |       |       |      |
|---|-----------------------|-----------|-------|-------|-------|-------|-------|------|
| PARAMETER   | TEST CONDITIONS       | SYMBOL    | SB320 | SB330 | SB340 | SB350 | SB360 | UNIT |
| Maximum instantaneous forward voltage                                     | 3.0 A                 | $V_F$ (1) | 0.49  |       |       | 0.68  |       | V    |
| Maximum instantaneous reverse current at rated DC blocking voltage        | $T_A = 25\text{ °C}$  | $I_R$ (1) | 0.5   |       |       |       | 10    | mA   |
|   | $T_A = 100\text{ °C}$ |           | 20    |       |       |       |       |      |

## Note

(1) Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle



# SB320, SB330, SB340, SB350, SB360

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| THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                                |       |       |       |       |       |                           |
|--|--------------------------------|-------|-------|-------|-------|-------|---------------------------|
| PARAMETER  | SYMBOL                         | SB320 | SB330 | SB340 | SB350 | SB360 | UNIT                      |
| Typical thermal resistance   | $R_{\theta JA}$ <sup>(1)</sup> | 30    |       |       |       |       | $^\circ\text{C}/\text{W}$ |
|  | $R_{\theta JL}$ <sup>(1)</sup> | 10    |       |       |       |       |                           |

**Note**

(1) Thermal resistance from junction to lead vertical PCB mounting, 0.500" (12.7 mm) lead length with 2.5" x 2.5" (63.5 mm x 63.5 mm) copper pad

| ORDERING INFORMATION (Example) |                 |                        |               |                                  |
|--------------------------------|-----------------|------------------------|---------------|----------------------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                    |
| SB340-E3/54                    | 1.08            | 54                     | 1400          | 13" diameter paper tape and reel |
| SB340-E3/73                    | 1.08            | 73                     | 1000          | Ammo pack packaging              |

## RATINGS AND CHARACTERISTICS CURVES

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

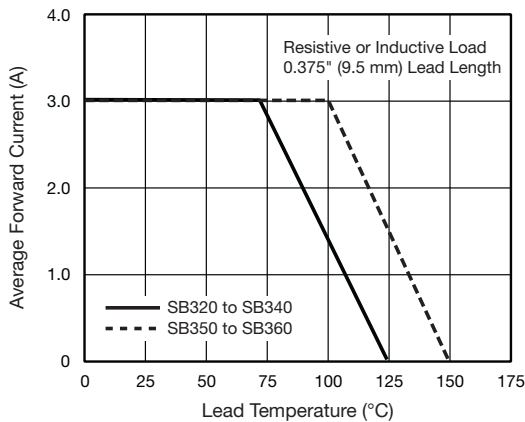


Fig. 1 - Forward Current Derating Curve

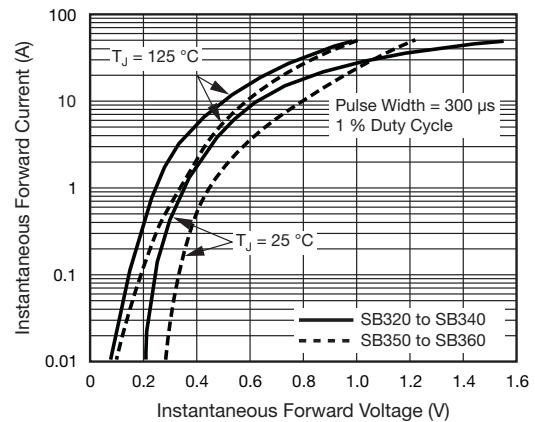


Fig. 3 - Typical Instantaneous Forward Characteristics

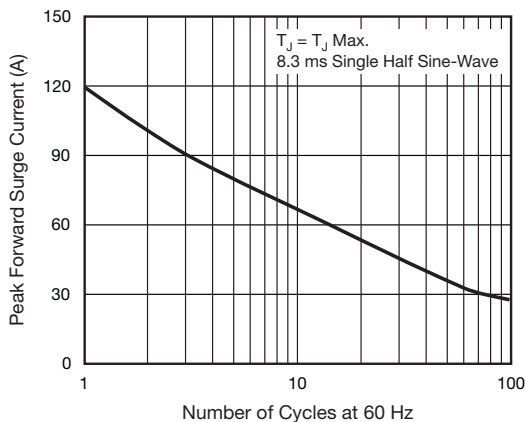


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

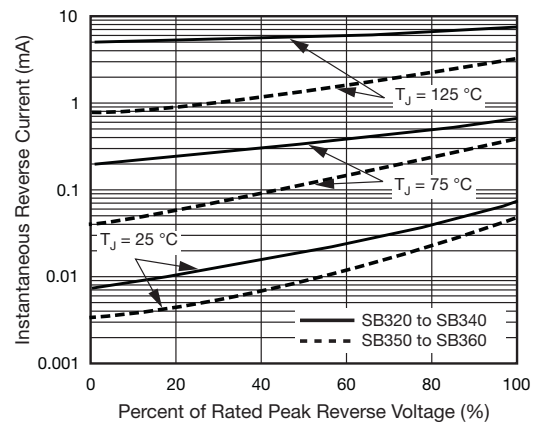


Fig. 4 - Typical Reverse Characteristics



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# SB320, SB330, SB340, SB350, SB360

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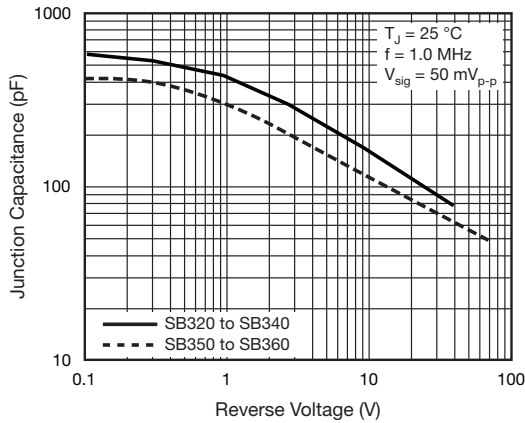


Fig. 5 - Typical Junction Capacitance

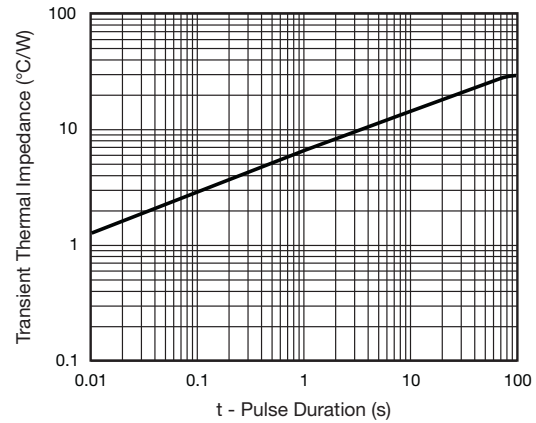
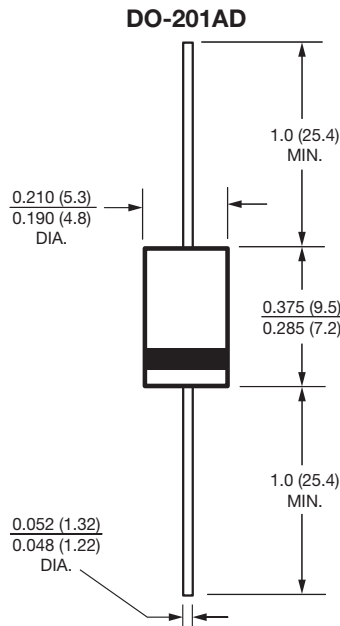


Fig. 6 - Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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