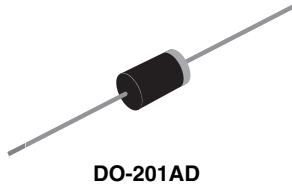


## Schottky Barrier Rectifier



### FEATURES

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High frequency operation
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS  
COMPLIANT

### TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

### MECHANICAL DATA

Case: DO-201AD

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes the cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	5.0 A
$V_{RRM}$	20 V to 60 V
$I_{FSM}$	150 A
$V_F$	0.50 V, 0.70 V
$T_J \text{ max.}$	150 °C

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SB520A	SB530A	SB540A	SB550A	SB560A	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 0.375" (9.5 mm) lead length (Fig. 1)	$I_{F(AV)}$	5.0					A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	150					A
Operating junction temperature range	$T_J$	- 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	SB520A	SB530A	SB540A	SB550A	SB560A	UNIT
Maximum instantaneous forward voltage <sup>(1)</sup>	5.0 A	$V_F$	0.50			0.70		V
Maximum reverse current at rated $V_R$ <sup>(2)</sup>	$T_A = 25\text{ °C}$	$I_R$	0.5					mA
	$T_A = 100\text{ °C}$		50		25			

**Notes:**

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

(2) Pulse test: Pulse width  $\leq$  40 ms

# SB520A thru SB560A

Vishay General Semiconductor



THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SB520A	SB530A	SB540A	SB550A	SB560A	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$				25		$^\circ\text{C/W}$
	$R_{\theta JC}$				10		
	$R_{\theta JL}$				8		

**Note:**

(1) Thermal resistance from junction to lead vertical P.C.B. mounting, 0.375" (9.5 mm) lead length

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB540A-E3/54	1.08	54	1400	13" diameter paper tape and reel
SB540A-E3/73	1.08	73	1000	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES

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

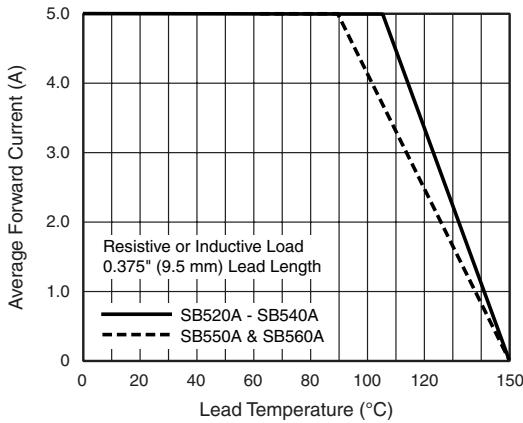


Figure 1. Forward Current Derating Curve

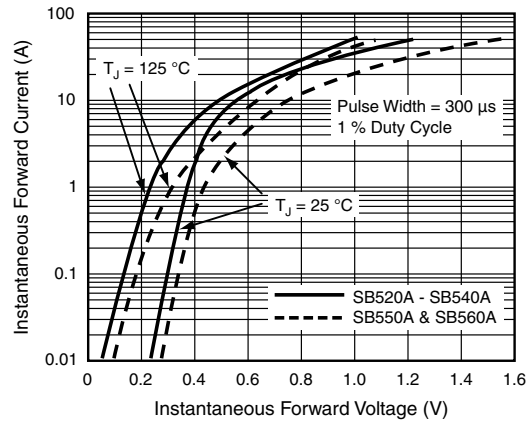


Figure 3. Typical Instantaneous Forward Characteristics

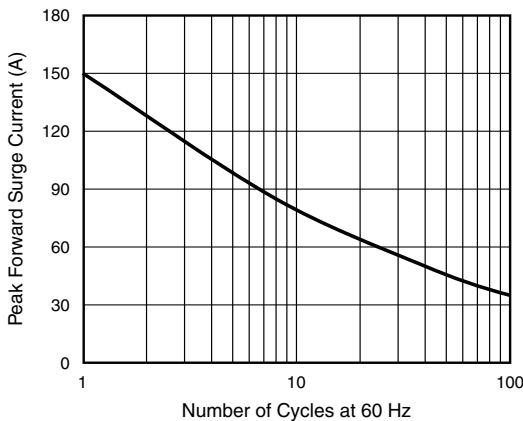


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

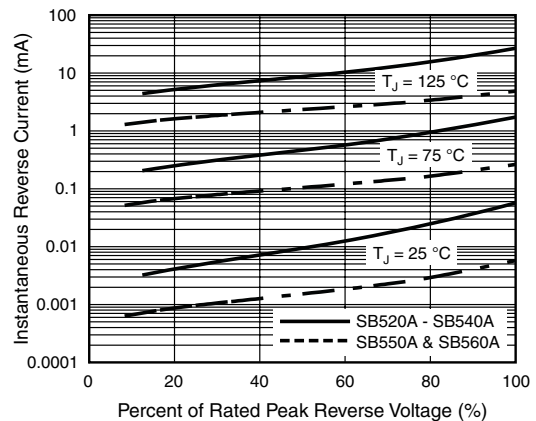


Figure 4. Typical Reverse Characteristics

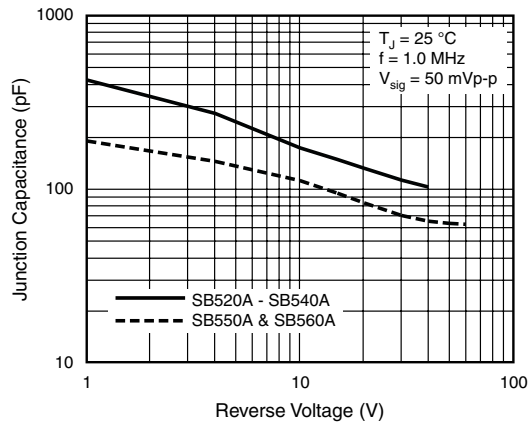


Figure 5. Typical Junction Capacitance

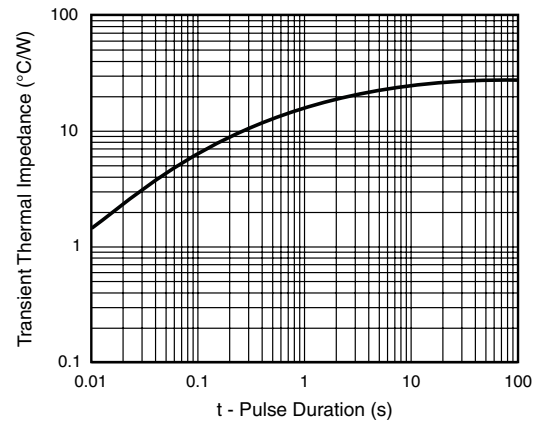
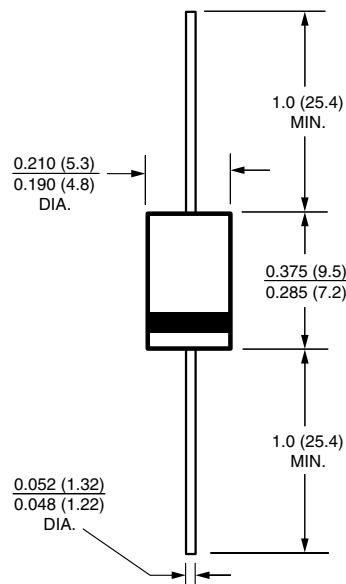


Figure 6. Typical Transient Thermal Impedance

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

**DO-201AD**





## Disclaimer

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