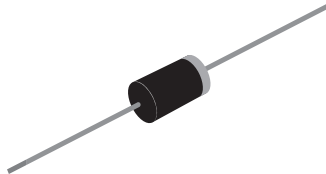


## Schottky Barrier Rectifier


**DO-201AD**
**FEATURES**

- Guardring for overvoltage protection
- Extremely fast switching
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**TYPICAL APPLICATIONS**

For use in low voltage high frequency inverters, free-wheeling, 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-002B and JESD22-B102D

E3 suffix for commercial grade

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

**MAJOR RATINGS AND CHARACTERISTICS**

$I_{F(AV)}$	5.0 A
$V_{RRM}$	20 V to 60 V
$I_{FSM}$	220 A
$V_F$	0.48 V, 0.65 V
$T_j$ max.	125 °C, 150 °C

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

PARAMETER	SYMBOL	SB520	SB530	SB540	SB550	SB560	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 (see Fig. 1)	$I_{F(AV)}$	5.0					A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	220					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** ( $T_A = 25$  °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	SB520	SB530	SB540	SB550	SB560	UNIT
Maximum instantaneous forward voltage <sup>(1)</sup>	at 5.0 A	$V_F$	0.48			0.65		V
Maximum instantaneous reverse current at rated DC blocking voltage <sup>(1)</sup>	$T_A = 25$ °C $T_A = 100$ °C	$I_R$	0.5				25	mA
			50					

**Note:**

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

THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SB520	SB530	SB540	SB550	SB560	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$			25 8			$^\circ\text{C/W}$

**Note:**

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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB540-E3/54	1.09	54	1400	13" Diameter Paper Tape & Reel
SB540-E3/73	1.09	73	1000	Ammo Pack Packaging

## RATINGS AND CHARACTERISTICS CURVES

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

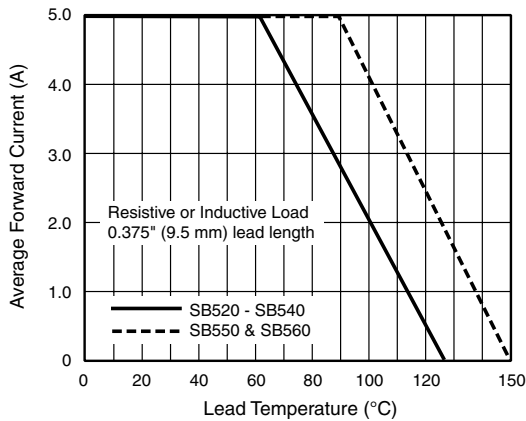


Figure 1. Forward Current Derating Curve

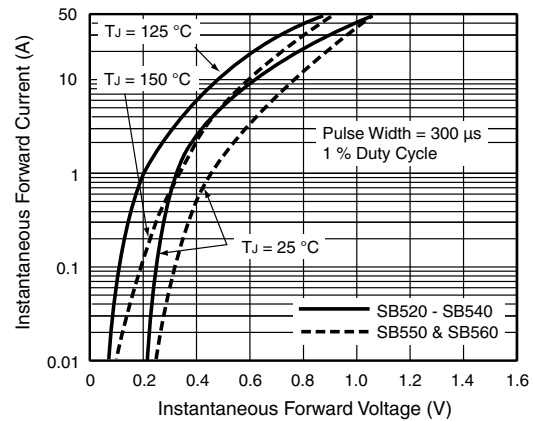


Figure 3. Typical Instantaneous Forward Characteristics

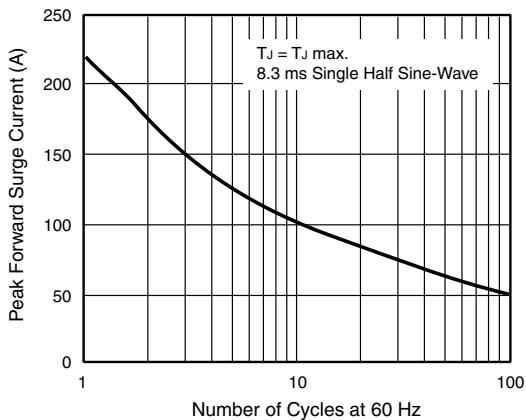


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

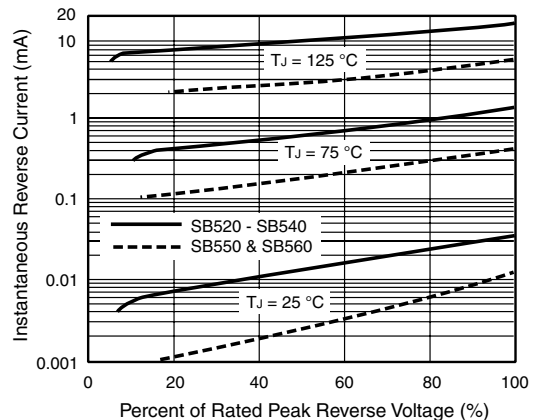


Figure 4. Typical Reverse Characteristics

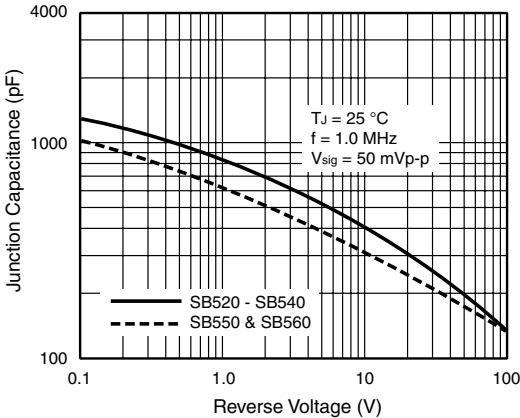


Figure 5. Typical Junction Capacitance

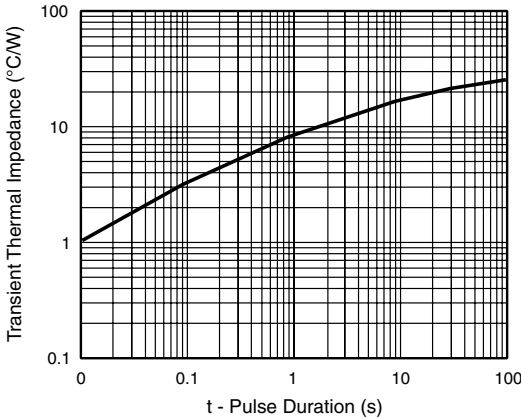
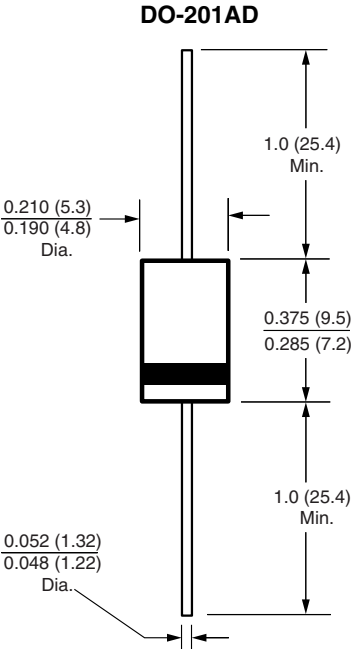


Figure 6. Typical Transient Thermal Impedance

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





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