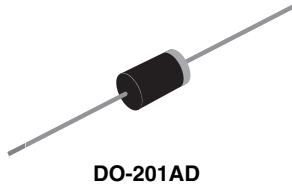


Schottky Barrier Rectifier



FEATURES

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High frequency operation
- 20 kV ESD capability
- 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	
$I_{F(AV)}$	3.0 A
V_{RRM}	20 V to 60 V
I_{FSM}	80 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	SB320A	SB330A	SB340A	SB350A	SB360A	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}	80					A
Electrostatic discharge capacitor voltage Human body model air discharge: C = 100 pF, R = 1.5 kΩ	V_C	20					kV
Voltage rate of change (rated V_R)	dV/dt	10 000					V/μs
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 150					°C



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	SB320A	SB330A	SB340A	SB350A	SB360A	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	3.0 A		V _F	0.50			0.70		V
Maximum reverse current at rated V _R ⁽²⁾		T _A = 25 °C	I _R	0.5					mA
		T _A = 100 °C		20		10			

Notes:

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB320A	SB330A	SB340A	SB350A	SB360A	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	40					°C/W
	R _{θJL}	12					

Note:

- (1) Thermal resistance from junction to lead vertical P.C.B. mounting, 0.500" (12.7 mm) lead length with 2.5 x 2.5" (63.5 x 63.5 mm) copper pad

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB340A-E3/54	1.077	54	1400	13" diameter paper tape and reel
SB340A-E3/73	1.077	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

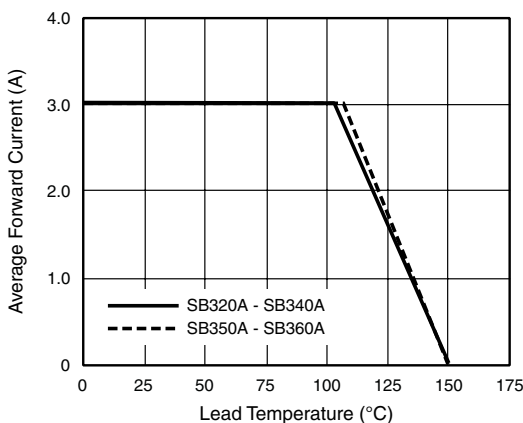


Figure 1. Forward Current Derating Curve

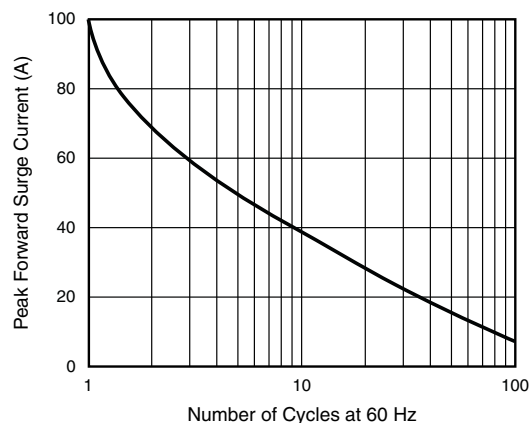


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

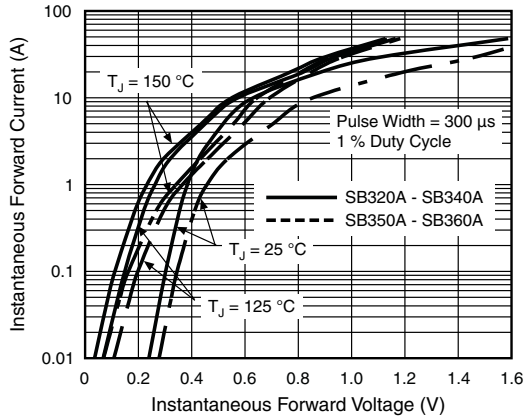


Figure 3. Typical Instantaneous Forward Characteristics

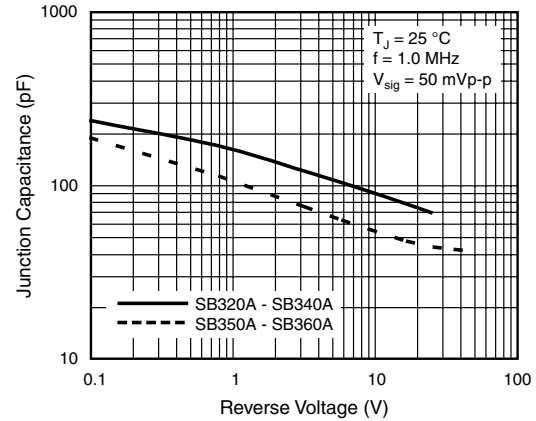


Figure 5. Typical Junction Capacitance

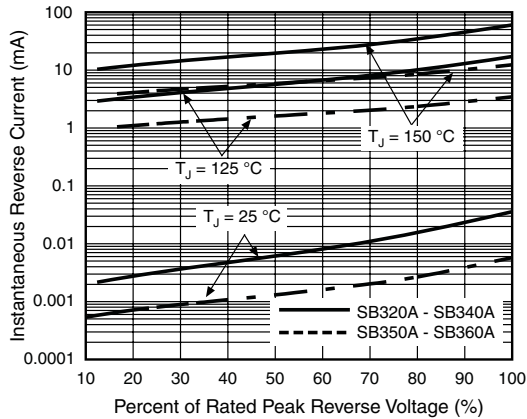


Figure 4. Typical Reverse Characteristics

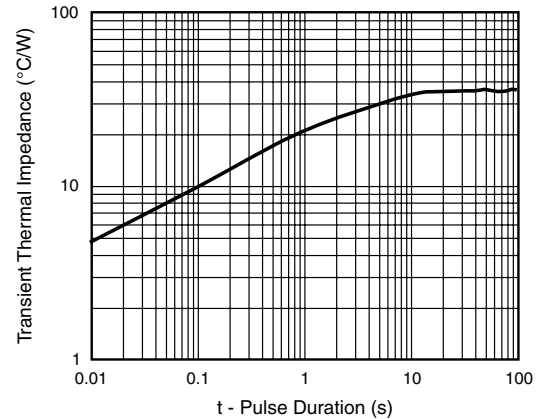
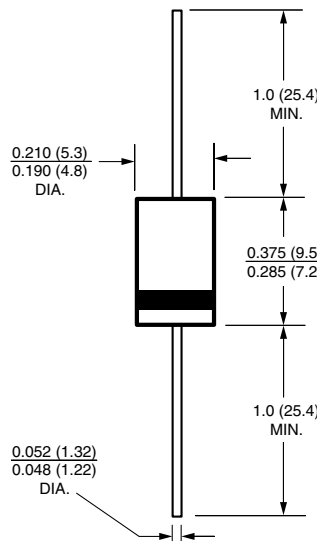


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD





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