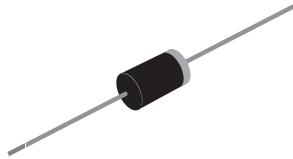


High-Voltage Schottky Rectifier

High Barrier Technology for improved high temperature performance



DO-201AD

MAJOR RATINGS AND CHARACTERISTICS

$I_{F(AV)}$	3.0 A
V_{RRM}	90 V, 100 V
I_{FSM}	100 A
V_F	0.65 V
I_R	20 μ A
T_j max.	175 °C

FEATURES

- Guardring for overvoltage protection
- Low power losses and high efficiency
- Low forward voltage drop
- Low leakage current
- 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 middle 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-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes the cathode end

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

PARAMETER	SYMBOL	SB3H90	SB3H100	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	90	100	V
Maximum working reverse voltage	V_{RWM}	90	100	V
Maximum DC blocking voltage	V_{DC}	90	100	V
Maximum average forward rectified current at $T_L = 90$ °C	$I_{F(AV)}$	3.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100		A
Peak repetitive reverse surge current at $t_p = 2.0$ μ s, 1 kHz	I_{RRM}	1.0		A
Critical rate of rise of reverse voltage	dv/dt	10000		V/ μ s
Storage temperature range	T_{STG}	- 55 to + 175		°C
Maximum operating junction temperature	T_J	175		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	SB3H90	SB3H100	UNIT
Maximum instantaneous forward voltage at: ⁽¹⁾	$I_F = 3.0$ A, $T_J = 25$ °C $I_F = 3.0$ A, $T_J = 125$ °C	V_F	0.80 0.65		V
Maximum DC reverse current at rated DC blocking voltage	$T_J = 25$ °C $T_J = 125$ °C	I_R	20 4.0		μ A mA

Note:

(1) Pulse test: 300 μ s pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SB3H90	SB3H100	UNIT
Maximum thermal resistance ⁽¹⁾	$R_{\theta JA}$	50		$^\circ\text{C/W}$
	$R_{\theta JL}$	20		

Note:

(1) P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0 mm) copper pad areas

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB3H100-E3/54	1.09	54	1400	13" Diameter Paper Tape & Reel
SB3H100-E3/73	1.09	73	1000	Ammo Pack Packaging

RATINGS AND CHARACTERISTICS CURVES

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

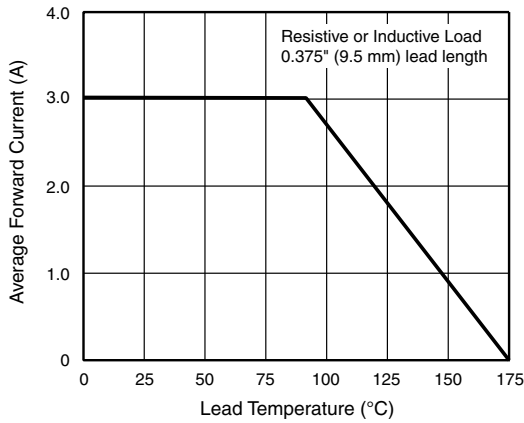


Figure 1. Forward Current Derating Curve

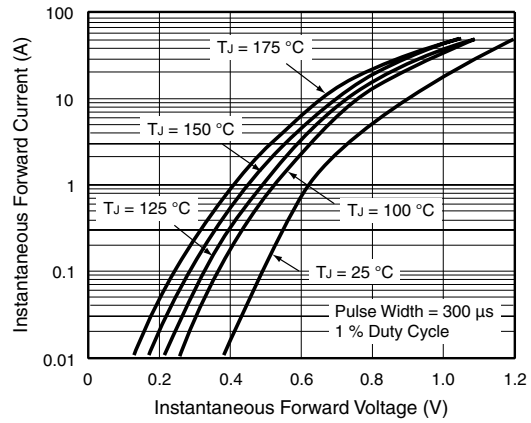


Figure 3. Typical Instantaneous Forward Characteristics

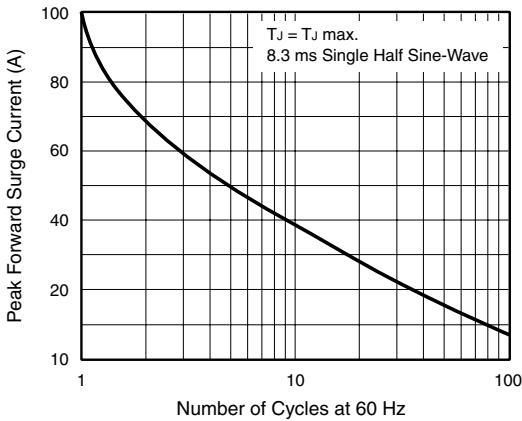


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

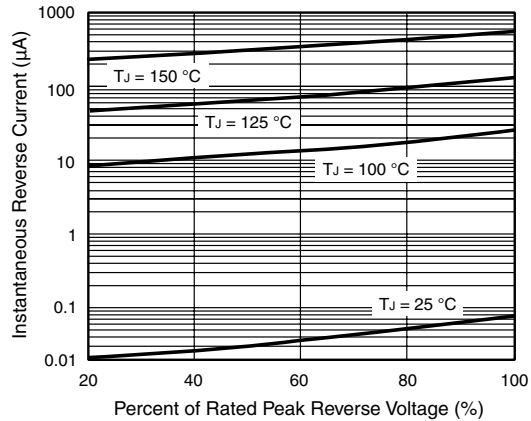


Figure 4. Typical Reverse Characteristics

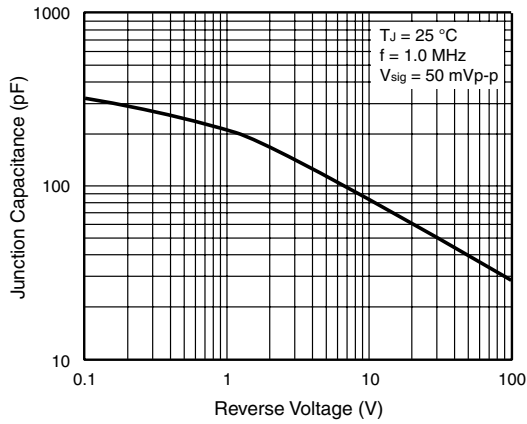


Figure 5. Typical Junction Capacitance

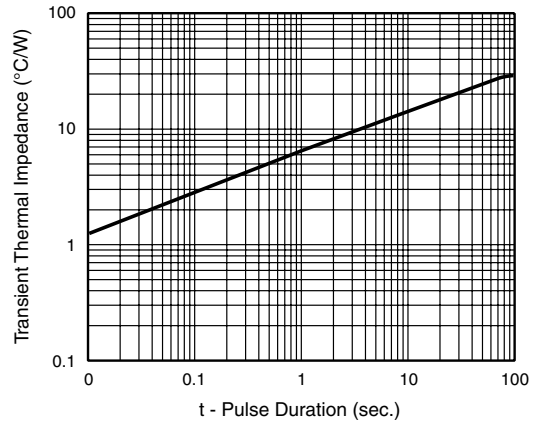
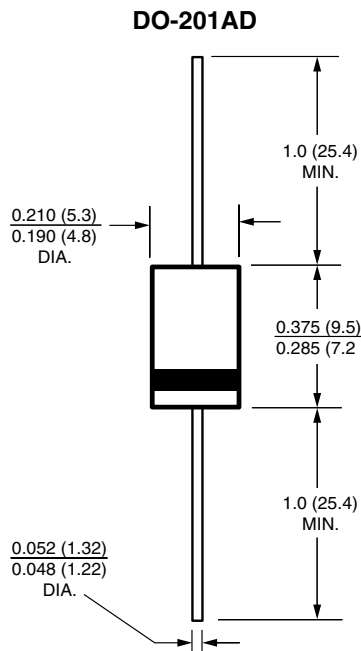


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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