RoHS



Vishay General Semiconductor

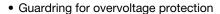
High Voltage Schottky Plastic Rectifier

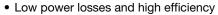
High Barrier Technology for Improved High Temperature Performance



PRIMARY 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 μΑ			
T _J max.	175 °C			
Package	DO-201AD			
Diode variations	Single			

FEATURES





Low forward voltage drop

· Low leakage current

· High forward surge capabilitmy

• 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

TYPICAL APPLICATIONS

For use in middle 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

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SB3H90	SB3H100	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	RRM 90 100			
Maximum working reverse voltage	V _{RWM}	V _{RWM} 90 100			
Maximum DC blocking voltage	V _{DC}	90	100	V	
Maximum average forward rectified current at T _L = 90 °C	I _{F(AV)}	3.0		Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100		А	
Peak repetitive reverse surge current at t _p = 2.0 μs, 1 kHz	I _{RRM}	1.0		А	
Critical rate of rise of reverse voltage	dV/dt	10 000		V/µs	
Storage temperature range	T _{STG}	- 55 to + 175		°C	
Maximum operating junction temperature	TJ	175		°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	SB3H90	SB3H100	UNIT
Maximum instantaneous forward voltage	Ι Ι – 3 Λ Δ	T _J = 25 °C	V _F (1)	0.80		V
		T _J = 125 °C		0.	65	ľ
Maximum reverse current at rated V _R		$T_J = 25 ^{\circ}C$	I _R (2)	2	0	μΑ
		T _J = 125 °C		4	.0	mA

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	MBOL SB3H90 SB3H100		UNIT	
Maximum thermal resistance	R _{0JA} (1)	50		°C/W	
	R _{0JL} (1)	20			

Note

 $^{(1)}$ PCB mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

ORDERING INFORMATION (Example)					
PREFERRED P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE		BASE QUANTITY	DELIVERY MODE		
SB3H100-E3/54	1.09	54	1400	13" diameter paper tape and reel	
SB3H100-E3/73	1.09	73	1000	Ammo pack packaging	

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

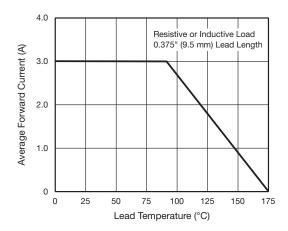


Fig. 1 - Forward Current Derating Curve

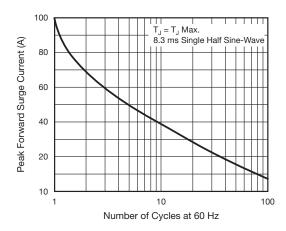


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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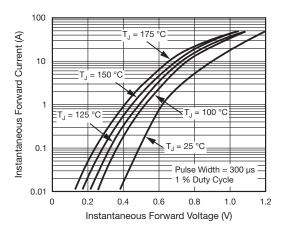


Fig. 3 - Typical Instantaneous Forward Characteristics

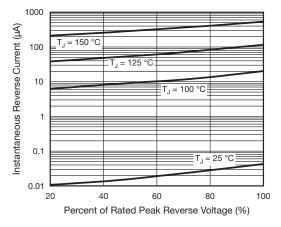


Fig. 4 - Typical Reverse Characteristics

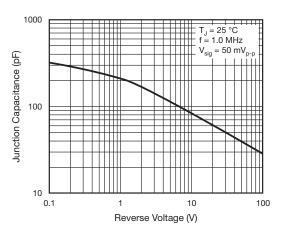


Fig. 5 - Typical Junction Capacitance

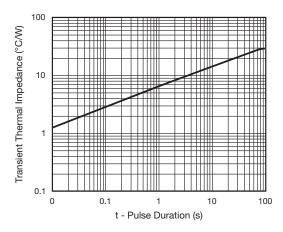
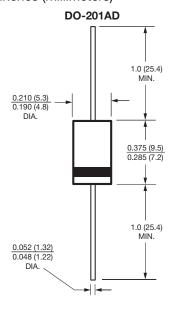


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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