

SB320 THRU SB3100

SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage – 20 to 100 V

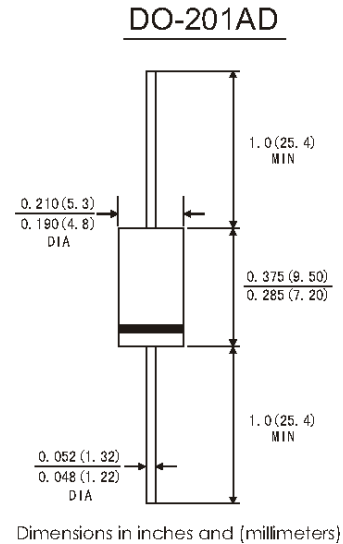
Forward Current – 3 A

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- High surge capability
- Low power loss, high efficiency
- High current capability, Low forward voltage drop
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Mechanical Data

- Case: JEDEC DO-201AD molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, method 2026
- Polarity: color band denotes cathode end



Absolute Maximum Ratings and Characteristics

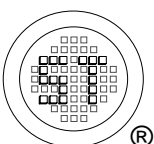
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load, For capacitive load, derate by 20%.

Parameter	Symbols	SB320	SB330	SB340	SB350	SB360	SB380	SB3100	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	80	100	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	57	71	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current 0.375" (9.5 mm) Lead Length	$I_{(AV)}$	3							A
Peak Forward Surge Current, 8.3 ms Single Half-sine-wave Superimposed on rated load (JEDEC method)	I_{FSM}	80							A
Maximum Forward Voltage at 3 A DC ¹⁾	V_F	0.55		0.7		0.85		V	
Maximum Reverse Current $T_A = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage ¹⁾ $T_A = 100\text{ }^\circ\text{C}$	I_R	20		10		10		mA	
Typical Junction Capacitance ³⁾	C_J	250		160		160		pF	
Typical Thermal Resistance ²⁾	$R_{\theta JA}$	40							$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	- 65 to + 125			- 65 to + 150			$^\circ\text{C}$	
Storage Temperature Range	T_S	- 65 to + 150							$^\circ\text{C}$

¹⁾ Pulse test: 300 μs pulse width, 1% duty cycle.

²⁾ Thermal resistance from junction to lead vertical P.C.B. mounted, 0.5" (12.7 mm) lead length with 2.5 X 2.5" (63.5 X 63.5 mm) copper pads.

³⁾ Measured at 1 MHz and applied reverse voltage of 4 V.



SEMTECH ELECTRONICS LTD.

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Dated : 03/09/2008 J

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FIG.1-FORWARD CURRENT DERATING CURVE

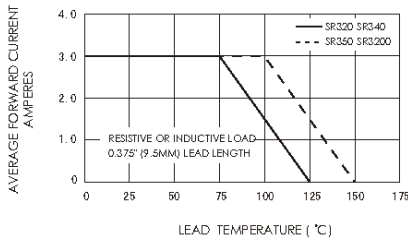


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

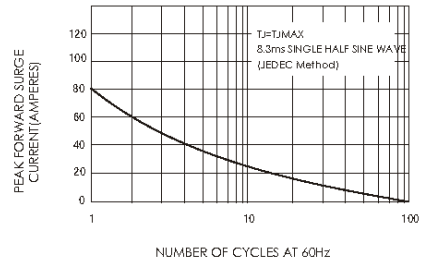


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

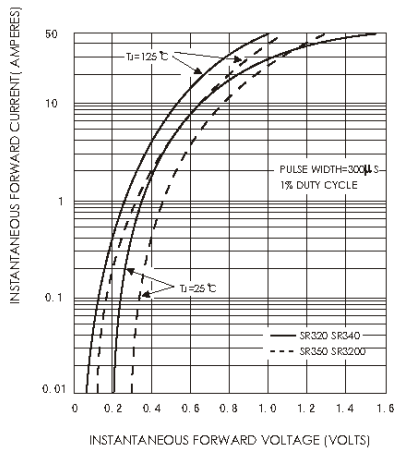


FIG.4-TYPICAL REVERSE CHARACTERISTICS

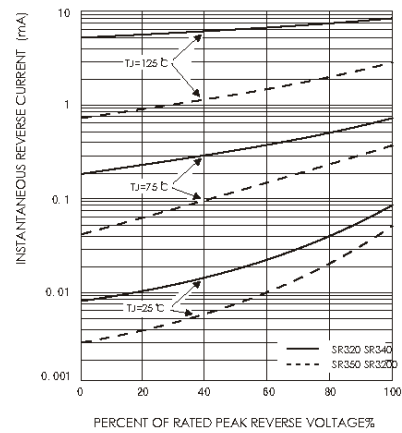


FIG.5-TYPICAL JUNCTION CAPACITANCE

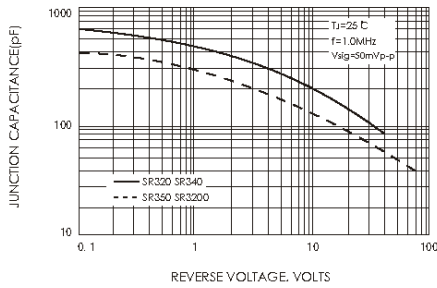
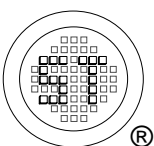
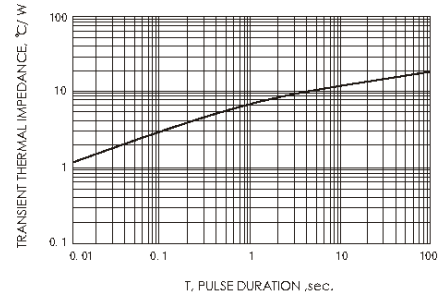


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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