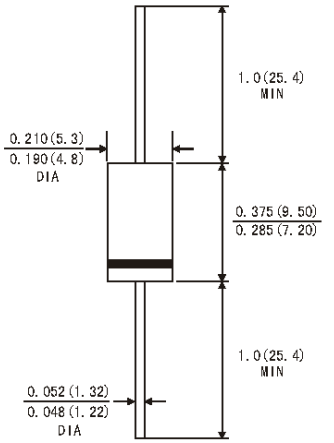
SB320 THRU SB3100

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

DO-201AD



Dimensions in inches and (millimeters)

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 at Rated DC Blocking Voltage [1] T_A = 25 °C	I_R	0.5							mA
T_A = 100 °C		20			10				
Typical Junction Capacitance [3]	C_J	250			160				pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	40							°C/W
Operating Junction Temperature Range	T_J	- 65 to + 125			- 65 to + 150				°C
Storage Temperature Range	T_S	- 65 to + 150							°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.

FIG.1-FORWARD CURRENT DERATING CURVE

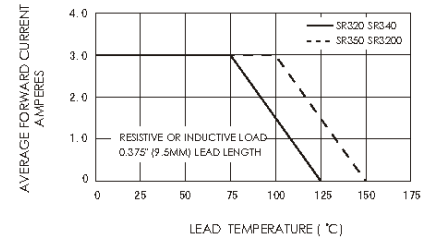


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

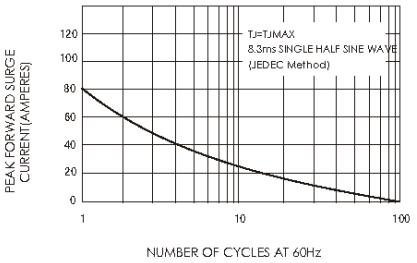


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

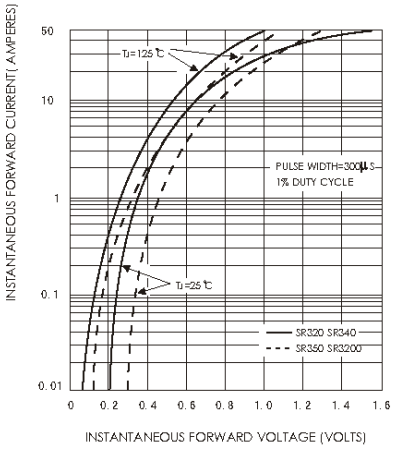


FIG.4-TYPICAL REVERSE CHARACTERISTICS

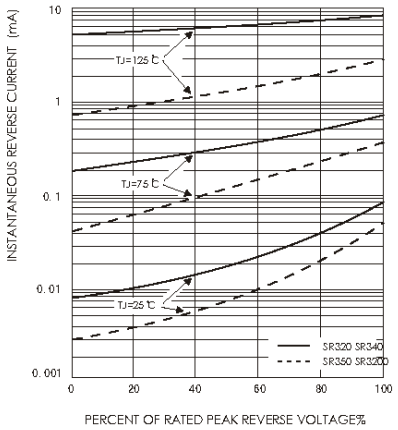


FIG.5-TYPICAL JUNCTION CAPACITANCE

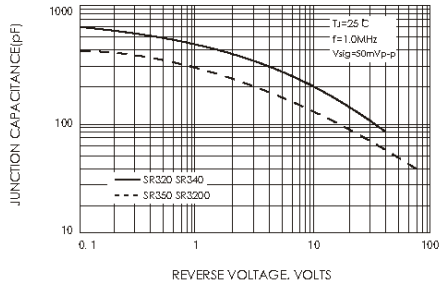


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE