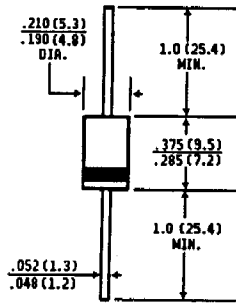


SB590 AND SB5100

SCHOTTKY RECTIFIER
VOLTAGE RANGE - 90 and 100 Volts CURRENT - 5.0 Amperes

FEATURES

DO-201AD



Dimensions in inches
and
(millimeters)

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-O.
- ◆ Metal to silicon rectifier, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low V_F
- ◆ High surge capacity
- ◆ Epitaxial construction
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ Guard Ring for transient protection

MECHANICAL DATA

Case: DO-201AD Molded Plastic
Terminals: Axial leads, solderable per MIL-STD- 202, Method 208
Polarity: Color Band denotes cathode
Mounting Position: Any
Weight: .04 ounces, 1.1 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load. For capacitive load, derate current by 20%.

	SYMBOLS	SB590	SB5100	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	90	100	Volts
Maximum RMS Voltage	V_{RWM}	64	71	Volts
Maximum DC Blocking Voltage	V_{DC}	90	100	Volts
Maximum Average Forward Rectified Current at .375" (9.5 mm) lead length, see fig. 1	$I_{(AV)}$	5.0		Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150		Amps
Peak Repetitive Reverse Surge Current (2.0us, 1KHz)	I_{RSM}	1.0		Amps
Voltage Rate of Change, dv/dt (rated V_R)	$V/\mu s$	1000		$V/\mu s$
Maximum Forward Voltage (Note 1) $I_F = 5A, T_L = 25^\circ C$ $I_F = 5A, T_C = 100^\circ C$	V_F	0.79	0.69	Volts
Maximum Instantaneous Reverse Current at Peak Reverse Voltage $T_C = 100^\circ C$ (Note 1)	I_R	20.0		mA
Peak Reverse Voltage $T_C = 25^\circ C$	I_R	0.6		mA
Maximum Thermal Resistance, Junction to Lead	$R_{\theta JL}$	15.0		$^\circ C/W$
Maximum Operating Junction Temperature	T_C	-65 to +150		$^\circ C$
Maximum Storage Temperature	T_{STG}	-65 to +175		$^\circ C$

NOTES: 1. Pulse Test Pulse Width 300 μs , Duty Cycle 2%.



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

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RATINGS AND CHARACTERISTIC CURVES SB590 AND SB5100

FIG. 1 — FORWARD CURRENT DERATING CURVE

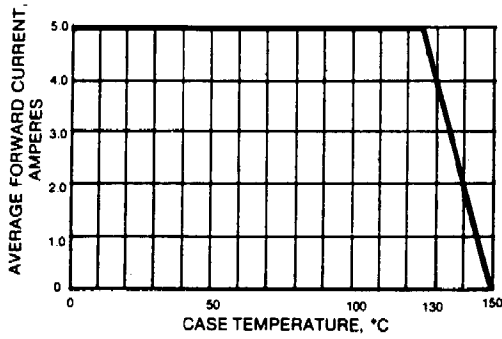


FIG. 3 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

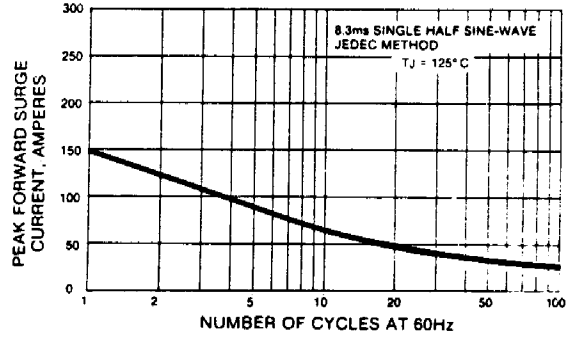


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

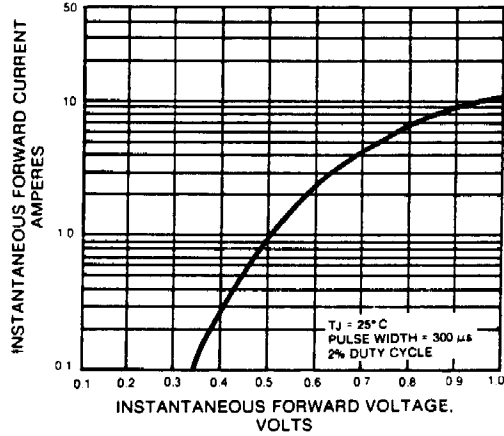


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

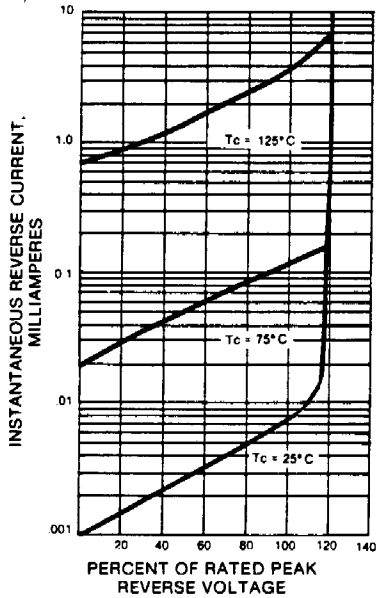


FIG. 5 — TYPICAL JUNCTION CAPACITANCE

