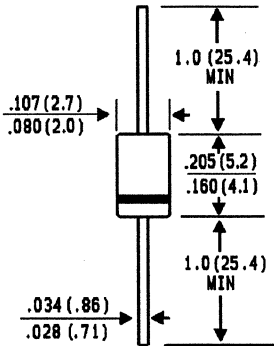


SB120 THRU SB160

MINIATURE SCHOTTKY BARRIER RECTIFIER
VOLTAGE RANGE - 20 to 60 Volts CURRENT - 1.0 Ampere

FEATURES

DO-204AL



Dimensions in inches
and
millimeters)

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◆ Metal to silicon rectifier, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low V_f
- ◆ High surge capacity
- ◆ Epitaxial construction
- ◆ Guardring for transient protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead lengths/5lbs., (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-41 Molded Plastic

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.012 ounces, .34 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Resistive or inductive load.

	SYMBOLS	SB120	SB130	SB140	SB150	SB160	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	Volts
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	Volts
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	Volts
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length See Fig.1	$I_{(AV)}$	1.0					Amps
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	40.0					Amps
Maximum Instantaneous Forward Voltage at 1.0A (NOTE 2)	V_F	0.50		0.70			Volts
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage (NOTE 2) $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	0.5					mA
	I_{R1}	10.0			5.0		mA
Typical Thermal Resistance (NOTE 1)	$R_{\theta JL}$	15.0					$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-65 to +125			-65 to +150		$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150					$^\circ\text{C}$

NOTES:

1. Thermal Resistance Junction to Lead P.C. Board Mounting .375" (9.5 mm) Lead Lengths.
2. Pulse Test: Pulse Width=300 μs , Duty Cycle=2.0%.

RATINGS AND CHARACTERISTIC CURVES SB120 THRU SB160

FIG. 1 — FORWARD CURRENT DERATING CURVE

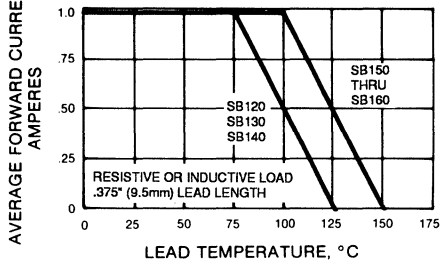


FIG. 2 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

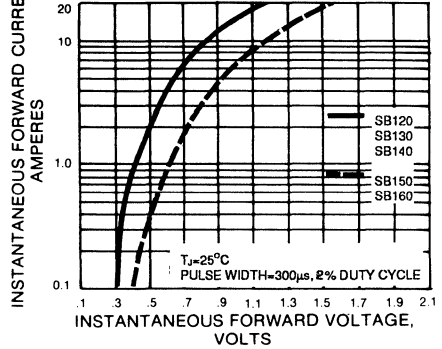


FIG. 3A — TYPICAL REVERSE CHARACTERISTICS

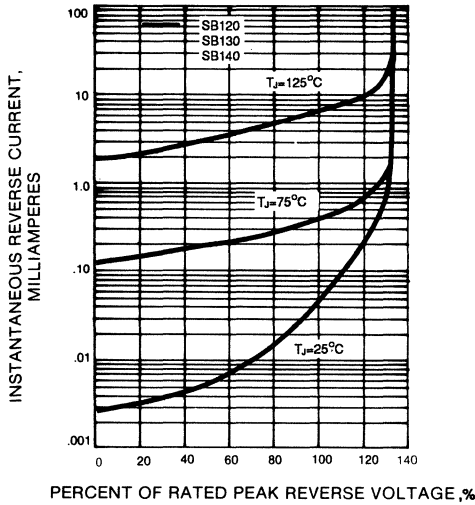


FIG. 3B — TYPICAL REVERSE CHARACTERISTICS

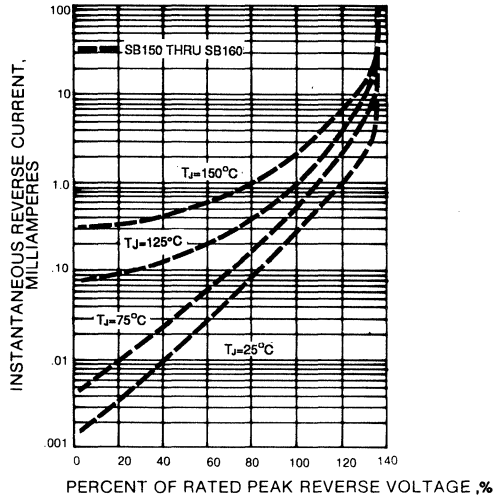


FIG. 4 — TYPICAL JUNCTION CAPACITANCE

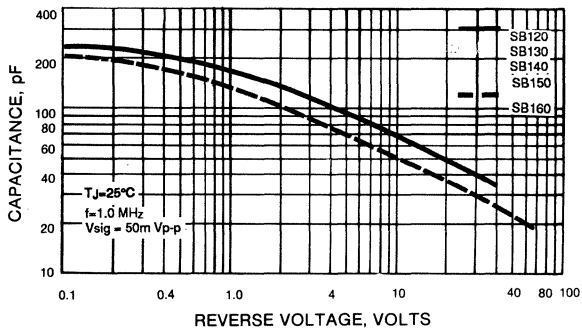


FIG. 5 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

