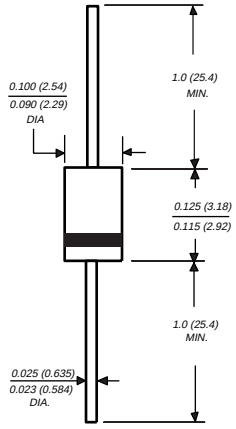
SB020 THRU SB040

MINIATURE SCHOTTKY BARRIER RECTIFIER

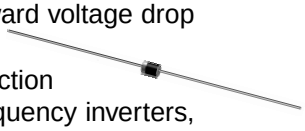
Reverse Voltage - *20 to 40 Volts* ***Forward Current -*** *0.6 Ampere*

Case Style MPG06



Dimensions in inches and (millimeters)

FEATURES



- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension

MECHANICAL DATA

Case: Molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.0064 ounce, 0.181 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	*SB020*	*SB030*	*SB040*	*UNITS*
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	Volts
Maximum RMS voltage	V_{RMS}	14	21	28	Volts
Maximum DC blocking voltage	V_{DC}	20	30	40	Volts
Maximum average forward rectified current at 0.375" (9.5mm) lead length T_L=60°C	$I_{(AV)}$	0.6			Amp
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=70°C	I_{FSM}	20.0			Amps
Maximum instantaneous forward voltage at 0.6A (NOTE 1)	V_F	0.55			Volts
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1) T_A=25°C T_A=100°C	I_R	0.5 10.0			mA
Typical thermal resistance (NOTE 2)	$R_{\Theta JA}$ $R_{\Theta JL}$	60.0 20.0			°C/W
Operating junction temperature range	T_J	-55 to +125			°C
Storage temperature range	T_{STG}	-55 to +150			°C

NOTES:
(1) Pulse test: 300μs pulse width, 1% duty cycle
(2) Thermal resistance from junction to ambient vertical P.C.B. mounted, 0.5" 1.27mm lead length with 1.5 x 1.5" (38 x 38mm) copper pad

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RATINGS AND CHARACTERISTIC CURVES SB020 THRU SB040

FIG. 1 - FORWARD CURRENT DERATING CURVE

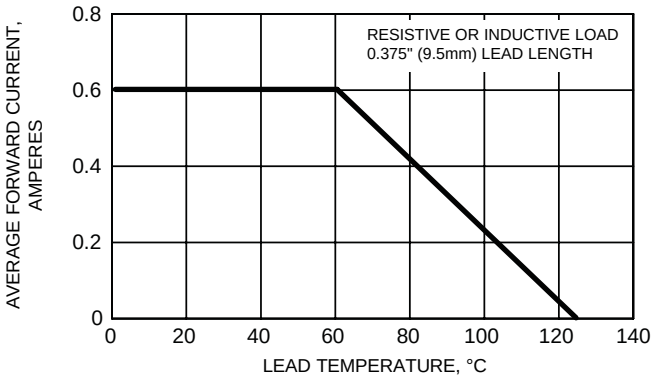


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

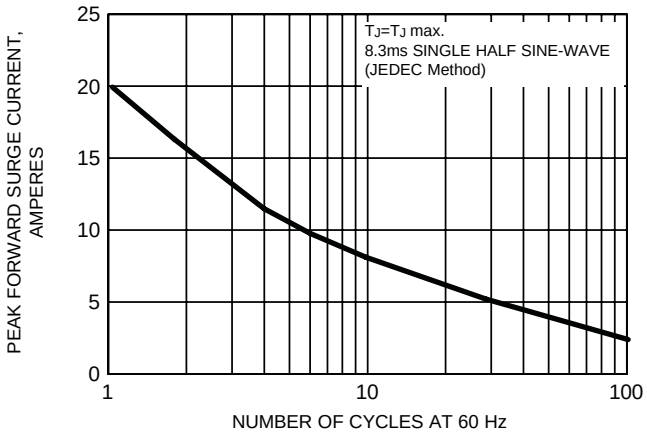


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

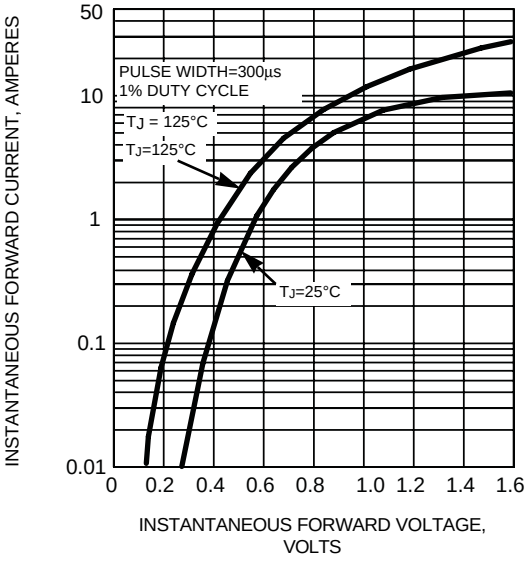


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

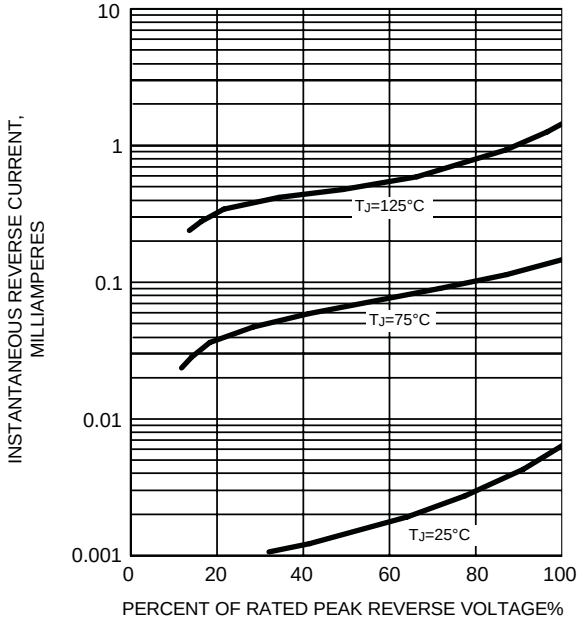


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

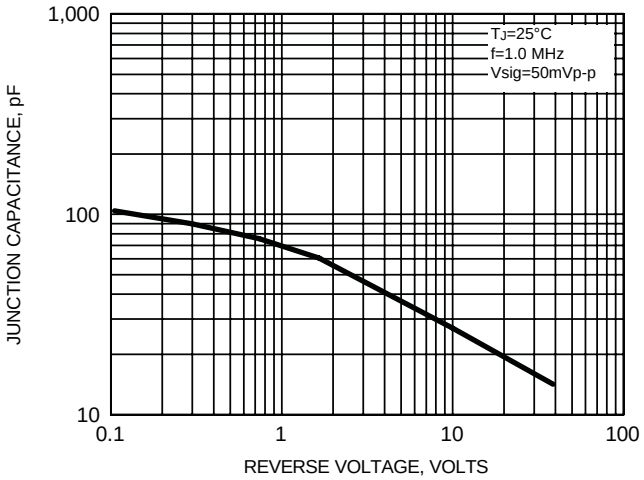
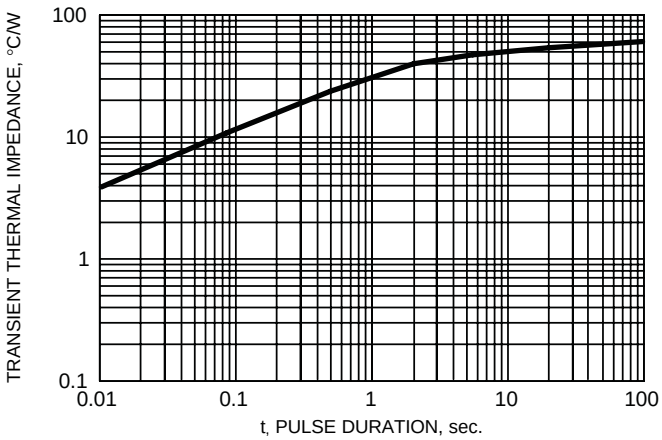


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



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