

II. Schottky Rectifier

5.0A Surface Mount Schottky Rectifier SB52~SB520

(Package: SMB (DO-214AA))

<p>FEATURES</p> <ul style="list-style-type: none"> • The plastic package carries Underwriters Laboratory Flammability Classification 94V-0 • Metal silicon junction, majority carrier conduction • Built-in strain relief • Low forward voltage drop • Low power loss, high efficiency • High forward surge current capability • High temperature soldering guaranteed <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : Molded plastic • Polarity : Color band denotes cathode • Weight : 0.090 grams 	<p>Case: SMB Dimensions in inches and (millimeters)</p>
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Ratings & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	SB 52	SB 53	SB 54	SB 55	SB 56	SB 58	SB 510	SB 515	SB 520	Units
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	Volts
Maximum average forward rectified current at TL (see Fig. 1)	I_o	5.0									Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100									Amps
Maximum instantaneous forward voltage at 5.0A DC	V_F	0.55		0.70		0.85		0.95		Volts	
Maximum DC reverse current $T_j = 25^\circ\text{C}$ at rated DC blocking voltage $T_j = 100^\circ\text{C}$	I_R	0.2		1.0		1.0		50		mA	
		20		50		50		50			
Typical junction capacitance (Note 1)	C_j	500		350		350		350		PF	
Typical thermal resistance (Note 2)	R_{th-JA}	15		10		10		10		$^\circ\text{C/W}$	
Operating junction temperature range	T_j	-55 to +150									$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150									$^\circ\text{C}$

Notes:

1. Measured at 1 MHz and applied reverse voltage of 4.0 volts D.C.

2. Thermal resistance junction to ambient.

Ratings and Characteristic Curves of SB52~SB520

FIG. 1 – FORWARD CURRENT DERATING CURVE

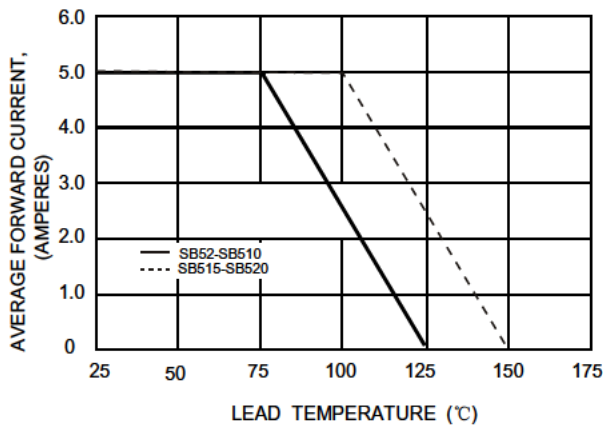


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

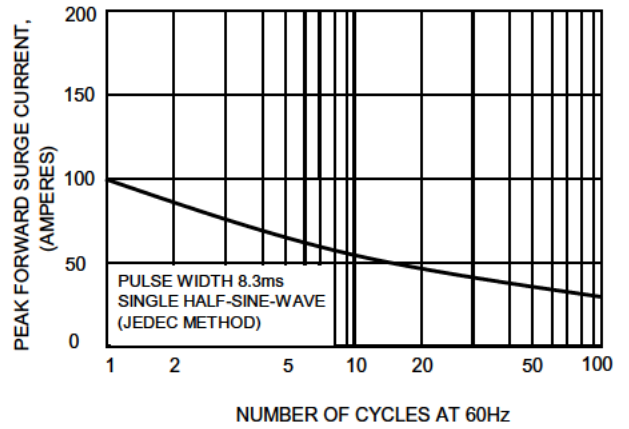


FIG.3 – TYPICAL JUNCTION CAPACITANCE

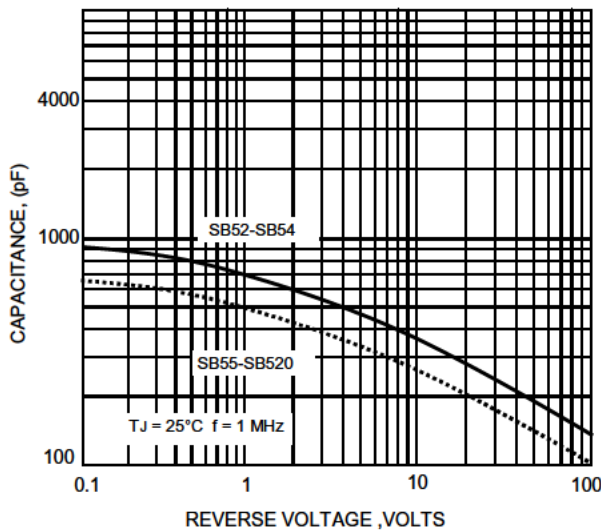


FIG.4-TYPICAL FORWARD CHARACTERISTICS

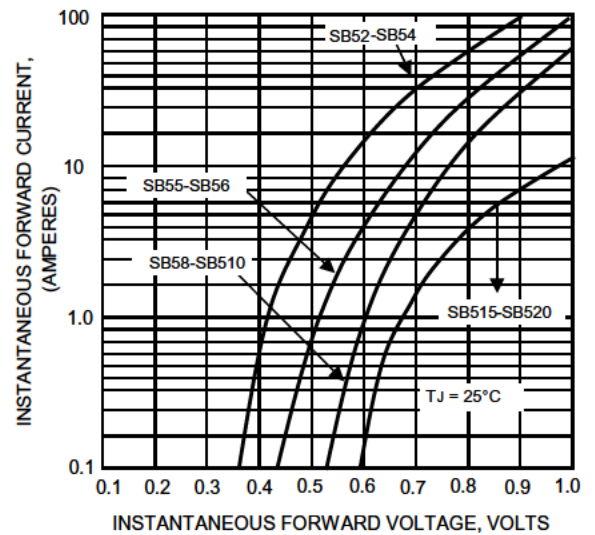


FIG.5-TYPICAL REVERSE CHARACTERISTICS

