

SB520 THRU SB5A0

SCHOTTKY BARRIER RECTIFIERS

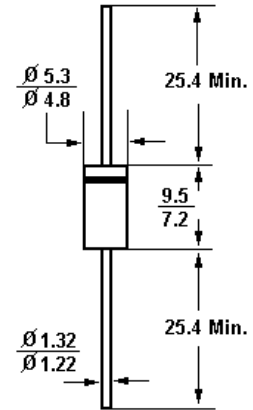
Reverse Voltage – 20 to 100 Volts

Forward Current – 5.0 Amperes

DO-201AD

Features

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



Dimensions in mm

Mechanical Data

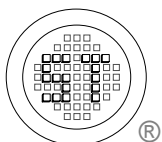
- **Case:** Molded plastic body, JEDEC DO-201AD.
- **Terminals:** Axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end.
- **Mounting Position:** Any

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%

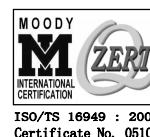
	Symbols	SB 520	SB 530	SB 540	SB 550	SB 560	SB 580	SB 5A0	Units	
Maximum recurrent peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	V	
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	57	71	V	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	V	
Maximum average forward rectified current 0.375" (9.5mm) lead length	$I_{(AV)}$	5.0							A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150							A	
Maximum instantaneous forward voltage at 5 A (Note 1)	V_F	0.55		0.70		0.80	0.85	V		
Maximum reverse current at rated reverse voltage (Note 1)	I_R	2.5							mA	
		50			25					
Typical junction capacitance (Note 2)	C_{tot}	500				400				pF
Typical thermal resistance, from junction to ambient (Note 3)	$R_{\theta JA}$	25							°C/W	
Typical thermal resistance, from junction to lead (Note 3)	$R_{\theta JL}$	8.0							°C/W	
Operating junction temperature range	T_J	-65 to +125			-65 to +150				°C	
storage temperature range	T_S	-65 to +150							°C	

- Notes: (1) Pulse test: 300 μ s pulse width, 1% duty cycle
 (2) Measured at 1MHz and applied reverse voltage of 4 Volts
 (3) Thermal Resistance from Junction to lead vertical P.C.B, mounted with 0.375" (9.5mm) lead length



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001
Certificate No. 7116

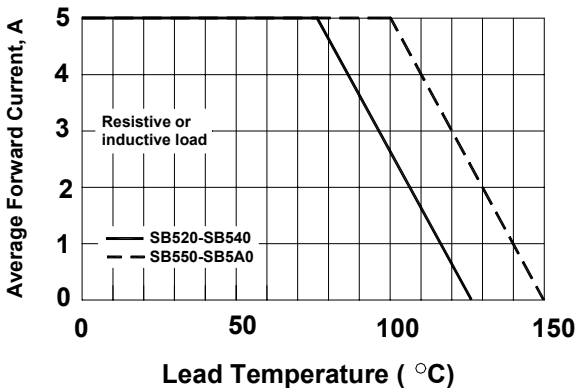


ISO 9001 : 2000
Certificate No. 000-100-002-00

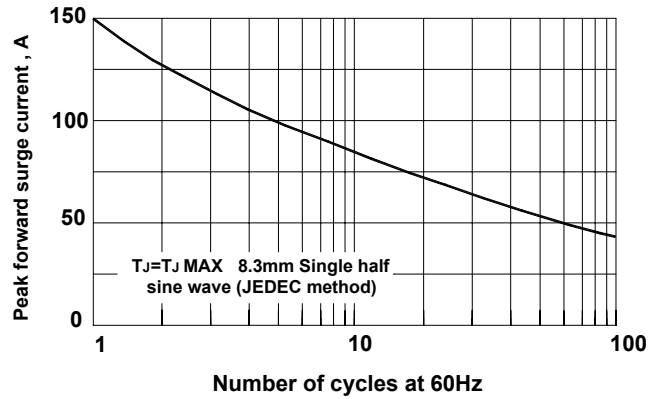
Dated : 19/05/2003

SB520 THRU SB5A0

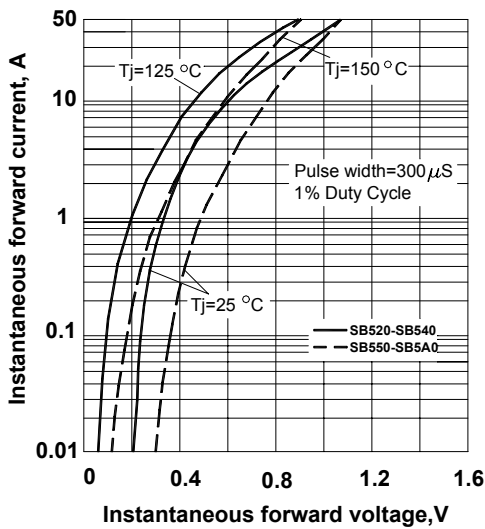
Forward Current Derating Curve



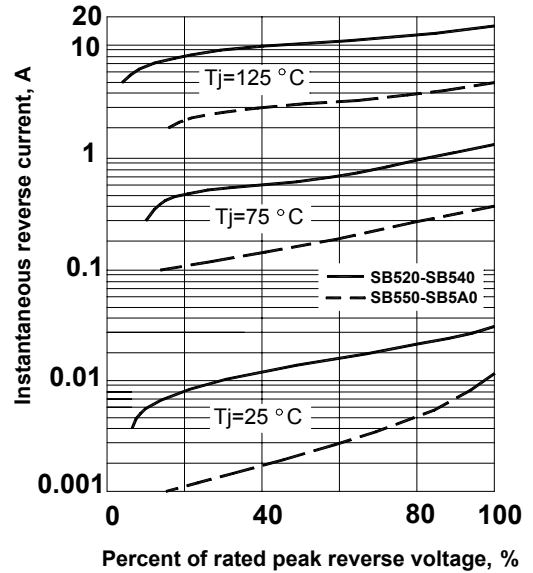
Maximum non-repetitive peak forward surge current



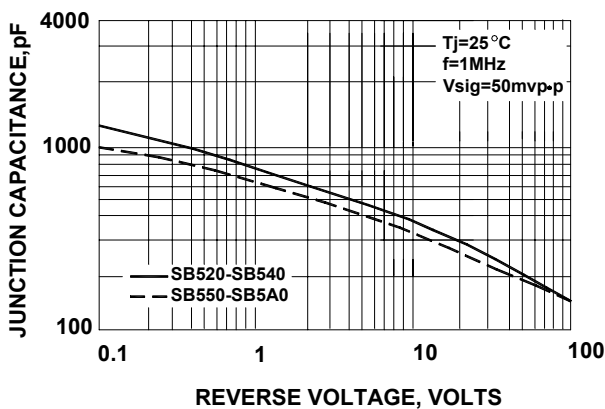
Typical instantaneous forward characteristics



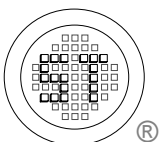
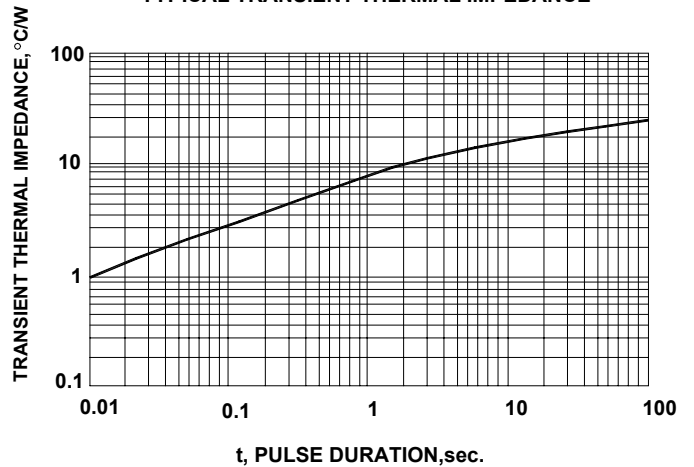
Typical reverse characteristics



TYPICAL JUNCTION CAPACITANCE

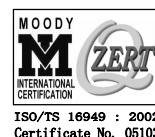


TYPICAL TRANSIENT THERMAL IMPEDANCE



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 19/05/2003