

Schottky Plastic Rectifiers

Reverse Voltage: 20 to 200V
Forward Current: 5.0 Amp

Features

- Schottky Barrier Chip
- Guardring for overvoltage protection
- Low forward voltage drop
- High forward surge capability
- High temperature soldering guaranteed
260°C/10 seconds at terminals

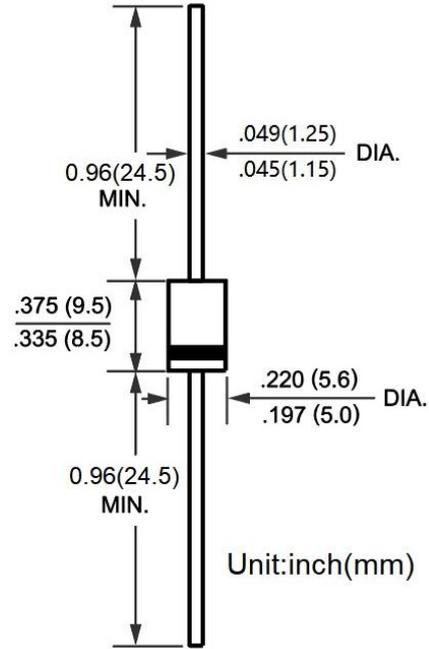
Mechanical Data

- **Package:** DO-27, Molded plastic body
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Cathode line denotes the cathode end

Typical Applications

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

DO-27



Unit: inch(mm)

Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter&Test Conditions	SYM.	SB 520	SB 540	SB 560	SB 580	SB 5100	SB 5150	SB 5200	Unit
Device marking code		SB 520	SB 540	SB 560	SB 580	SB 5100	SB 5150	SB 5200	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	20	40	60	80	100	150	200	V
Maximum RMS Voltage	V _{RMS}	14	28	42	56	70	105	140	V
Maximum DC Blocking Voltage	V _{DC}	20	40	60	80	100	150	200	V
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _{O(AV)}	5.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I _{FSM}	120							A
Maximum Thermal Resistance, Junction To Ambient (Note1)	R _{θJA}	25							°C/W
Operating junction range	T _j	-55 to+125			-55 to+150				°C
Storage temperature range	T _{STG}	-55 to+150							°C

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Parameter&Test Conditions	SYM.	SB 520	SB 540	SB 560	SB 580	SB 5100	SB 5150	SB 5200	Unit
Maximum Instantaneous Forward Voltage IFM =5A	V _{FM}	0.55		0.70		0.85	0.95		V
Maximum DC reverse current at rated DC blocking voltage	TA = 25°C	0.2			0.05				mA
	TA = 100°C	20			5				

Notes:

1. Thermal resistance from junction to lead vertical PCB mounted, 0.500" (12.7 mm) lead length with 2.5" x 2.5" (63.5 mm x 63.5 mm) copper pad.
2. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

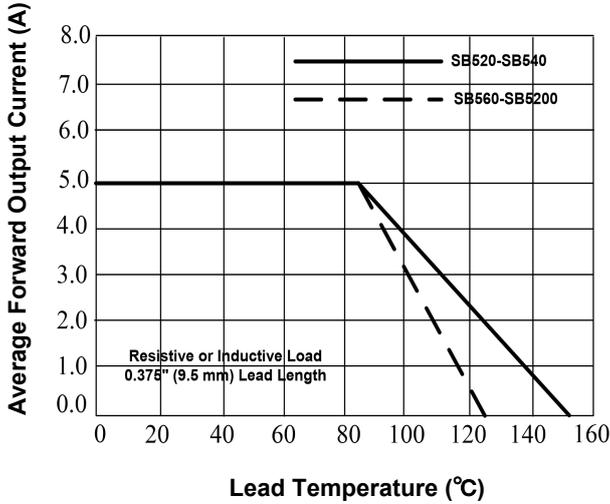


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

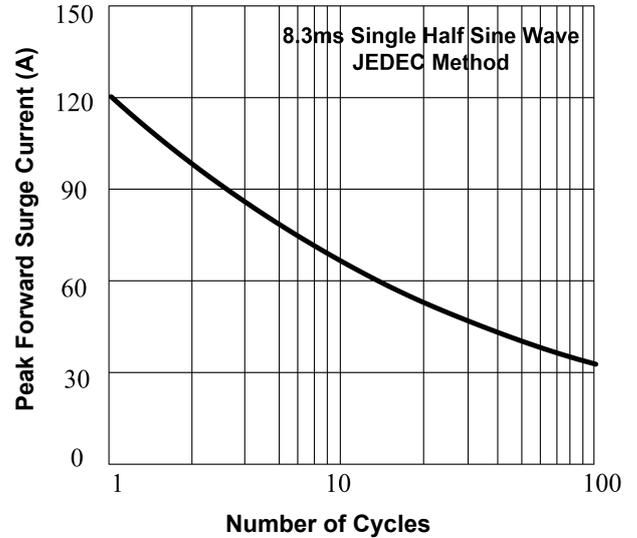


FIG. 3- TYPICAL FORWARD VOLTAGE

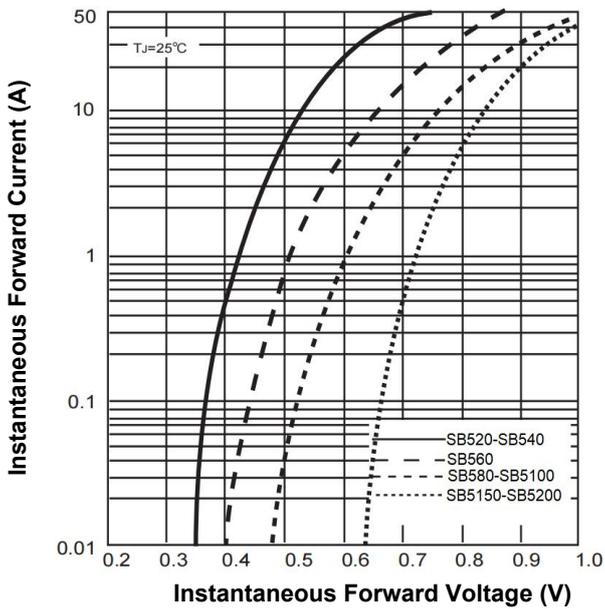
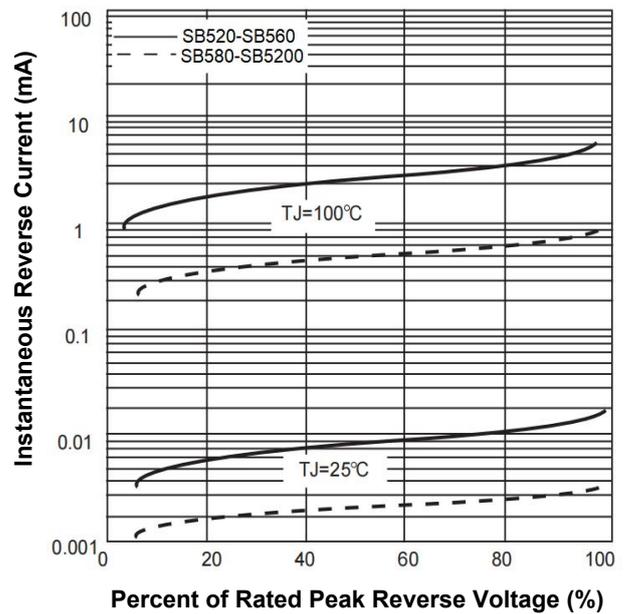


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.



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