

**SB520E-G thru SB5100E-G      "-G" : RoHS Device**

**Voltage Range: 20 to 100 V**

**Current: 5.0 A**



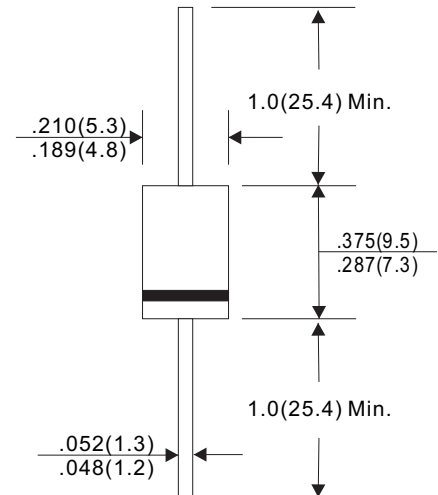
## FEATURES

- Low drop down voltage
- 5.0A operation at  $T_A=75^{\circ}\text{C}$  with no thermal runaway
- For use in low voltage, high frequency invertors free wheeling and polarity protection
- Silicon epitaxial planar chips
- Electrostatic discharge (ESD) test under IEC61000-4-2 standard: >15KV (air) & 8KV (contact)
- Lead-free part, meet RoHS requirements

## MECHANICAL DATA

- Case: Molded plastic body DO-201AD
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.04 ounces, 1.12 grams

**DO-201AD**



Unit :inch(mm)

## MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

**Ratings at 25°C ambient temperature unless otherwise specified**

	Symbols	520E	540E	545E	550E	560E	580E	5100E	Units
Maximum Recurrent Peak Reverse Voltage	VRRM	20	40	45	50	60	80	100	Volts
Maximum RMS Voltage	VRMS	14	28	30	35	42	56	70	Volts
Maximum DC Blocking Voltage	VDC	20	40	45	50	60	80	100	Volts
Maximum Average Forward Rectified Current 0.5" (12.7mm) lead length at TA=75°C, See Figure 1	IAV	5.0							Amps
Peak Forward Surge Current 8.3mS single half sine-wave superimposed on rated load (JEDEC Method) TL=110°C	IFSM	150			125				Amps
Maximum Forward Voltage at 5.0A (Note 1)	VF	0.55			0.70		0.85		Volts
Maximum DC Reverse Current TA= 25°C at Rated DC Blocking Voltage TA=100°C	IR	0.5							mA
		50			30				
Typical Junction Capacitance (Note 2)	CJ	500							pF
Typical Thermal Resistance (Note 3)	RθJA RθJL				35.0 15.0				°C/W
Operating Junction Temperature Range	TJ	-65 ~ +125			-65 ~ +150				°C
Storage Temperature Range	TSTG	-65 ~ +150							°C

Note 1. Pulse test: 300 $\mu$ S pulse width, 1% duty cycle

1. Pulse test: 500ps pulse width, 1% duty cycle
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts

3. Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted 0.500" (12.7mm) lead length with 2.5x2.5" (63.5x63.5mm) copper pad.

RATINGS AND CHARACTERISTIC CURVES SB520E-G thru SB5100E-G

Fig.1 - Forward Current Derating Curve

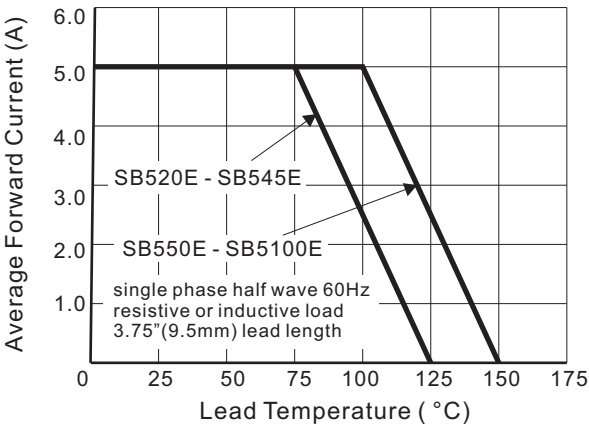


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

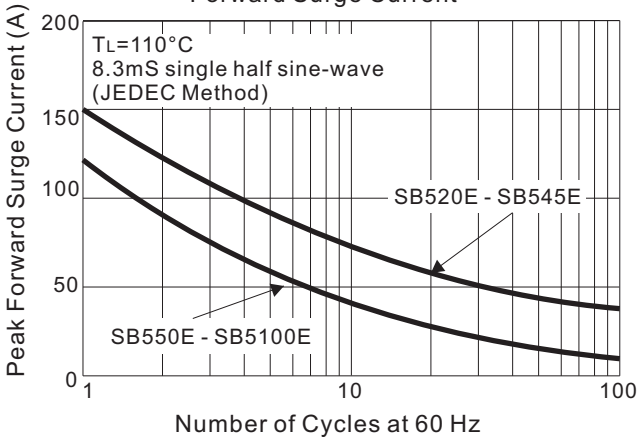


Fig. 3 - Typical Instantaneous Forward Characteristics

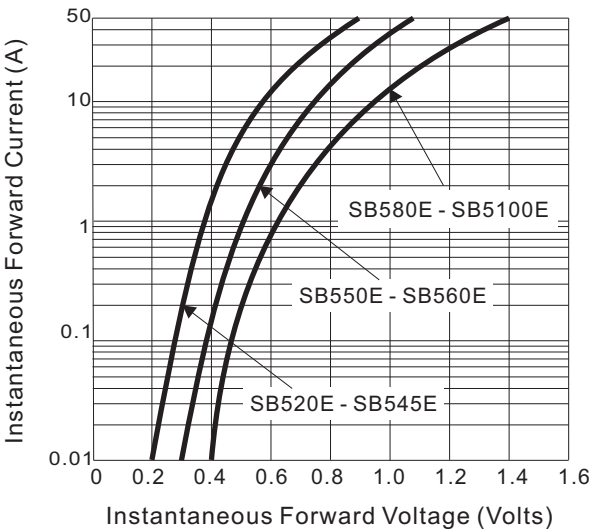


Fig. 4A - Typical Reverse Characteristics

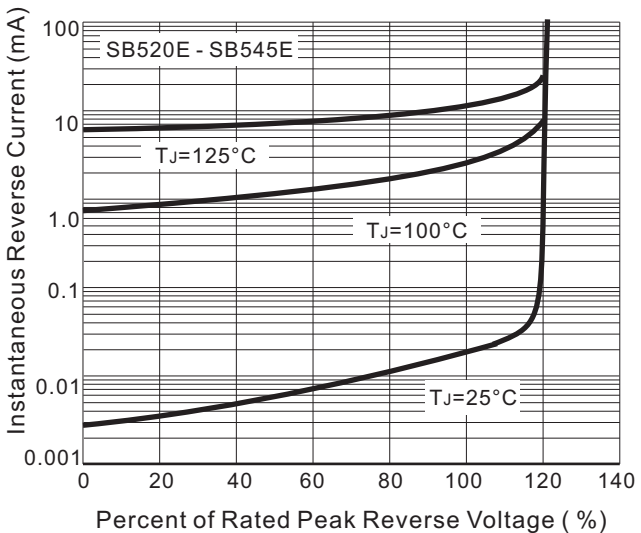


Fig. 5 - Typical Junction Capacitance

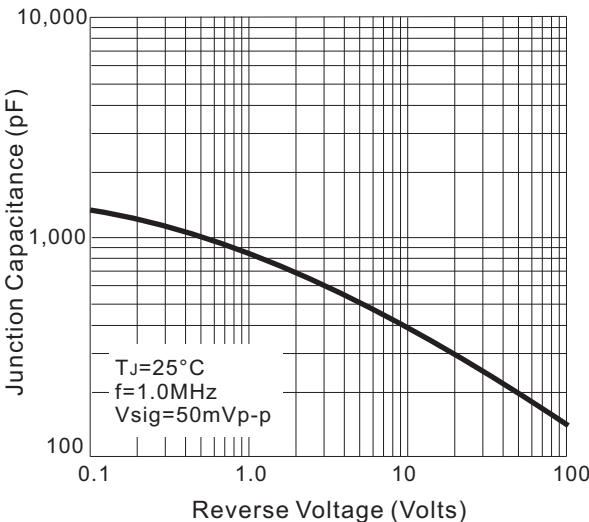
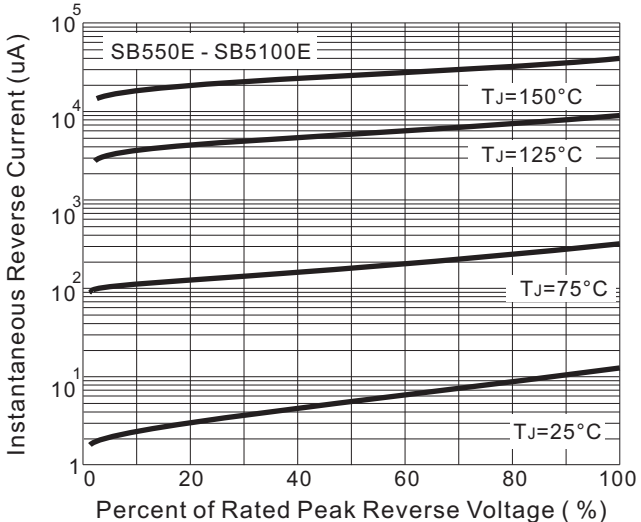


Fig. 4B - Typical Reverse Characteristic



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