



# DATA SHEET

## SB820D~SB8150D

### D<sup>2</sup>PAK SURFACE MOUNTSCHOTTKY BARRIER RECTIFIER

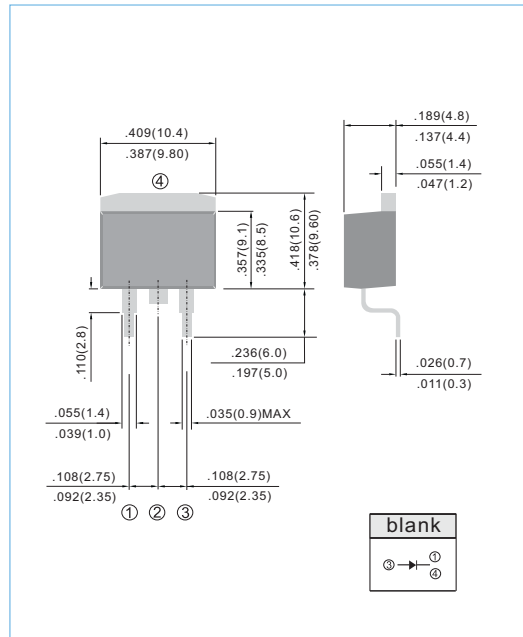
**VOLTAGE** 20 to 150 Volts    **CURRENT** 8 Ampere    **TO-263 / D<sup>2</sup>PAK**    Unit: inch (mm)

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Exceeds environmental standards of MIL-S-19500/228
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- For use in low voltage,high frequency inverters free wheeling , and polarity protection applications.
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 99% Sn above

#### MECHANICALDATA

Case: TO-263/D<sup>2</sup>PAK molded plastic package  
Terminals: Lead solderable per MIL-STD-202G, Method 208  
Polarity: As marked.  
Mounting Position: Any  
Weight: 0.06 ounces, 1.7 grams.



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

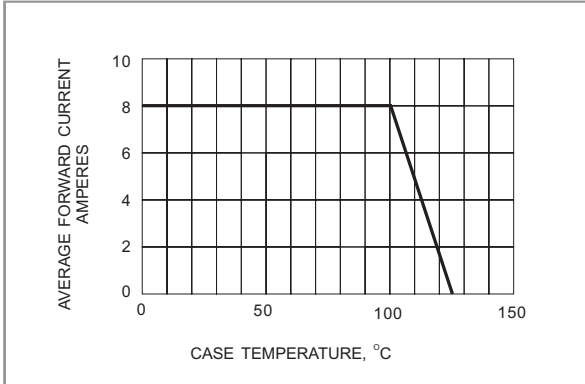
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

PARAMETER	SYMBOL	SB820D	SB830D	SB840D	SB850D	SB860D	SB880D	SB8100D	SB8150D	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	150	V	
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	35	42	56	70	105	V	
Maximum DC Blocking Voltage	V <sub>DC</sub>	20	30	40	50	60	80	100	150	V	
Maximum Average Forward Current .375" (9.5mm) lead length at T <sub>c</sub> =100°C	I <sub>AV</sub>	8								A	
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I <sub>FSM</sub>	150								A	
Maximum Forward Voltage at 8.0A	V <sub>F</sub>	0.55			0.75		0.85		0.92	V	
Maximum DC Reverse Current TA=25°C at Rated DC Blocking Voltage TA=100°C	I <sub>R</sub>	0.5				50					mA
Typical Thermal Resistance	R <sub>θJC</sub>	6								°C / W	
Operating Junction Temperature Rang	T <sub>J</sub>	-50 to +125								°C	
Storage Temperature Rang	T <sub>J</sub> ,T <sub>STG</sub>	-50 to +150								°C	

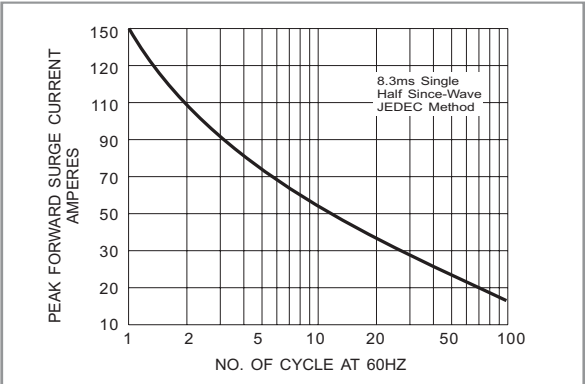
NOTES:  
Both Bonding and Chip structure are available.



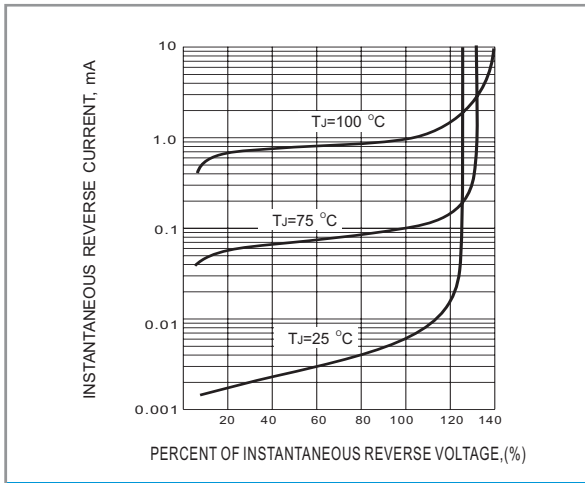
**RATING AND CHARACTERISTIC CURVES**



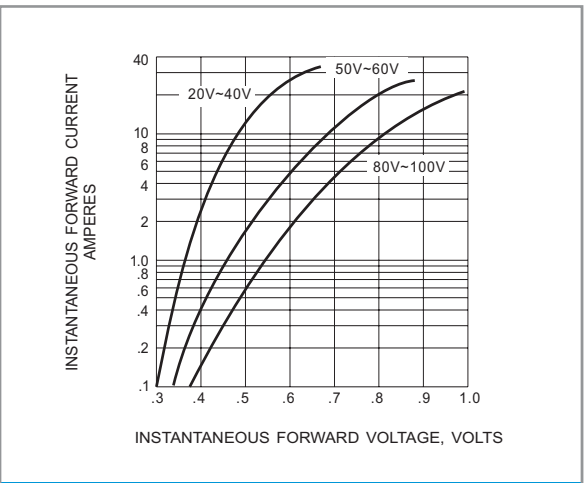
**Fig.1- FORWARD CURRENT DERATING CURVE**



**Fig.2- MAXIMUM NON - REPETITIVE SURGE CURRENT**



**Fig.3- TYPICAL REVERSE CHARACTERISTICS**



**Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**