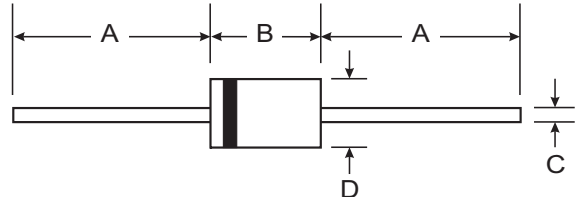


### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 25A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at Terminal
- **Lead Free Finish, RoHS Compliant (Note 3)**



### Mechanical Data

- Case: DO-41
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Bright Tin. Plated Leads - Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Mounting Position: Any
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: 0.3 grams (approximate)

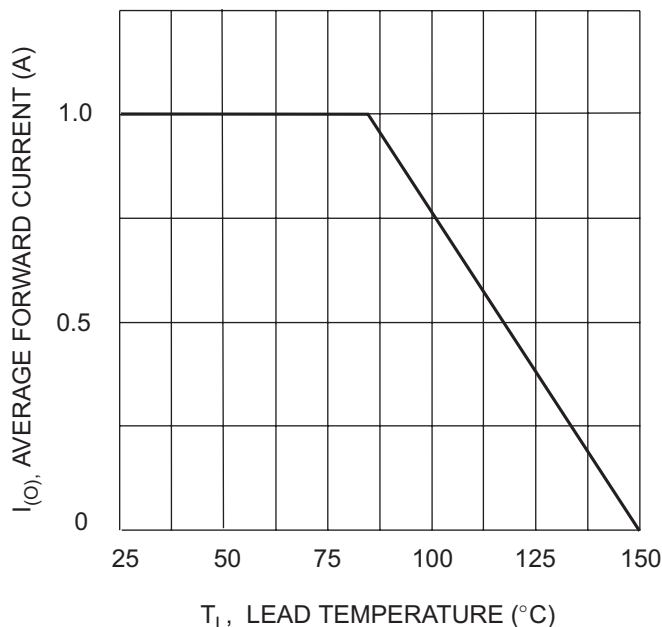
DO-41		
Dim	Min	Max
A	25.4	—
B	4.1	5.2
C	0.71	0.86
D	2.0	2.7
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

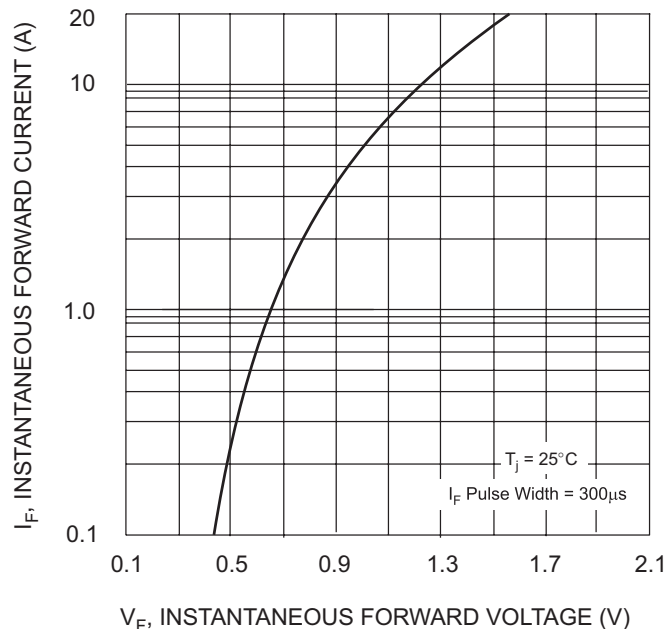
Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	SB170	SB180	SB190	SB1100	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	70	80	90	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	56	63	70	V
Average Rectified Output Current @ T <sub>T</sub> = 85°C	I <sub>O</sub>	1.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	25				A
Forward Voltage @ I <sub>F</sub> = 1.0A @ T <sub>A</sub> = 25°C	V <sub>FM</sub>	0.80				V
Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>A</sub> = 25°C @ T <sub>A</sub> = 100°C	I <sub>RM</sub>	0.5 10				mA
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	80				pF
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	15				K/W
Typical Thermal Resistance Junction to Ambient (Note 1)	R <sub>θJA</sub>	50				K/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +125				°C

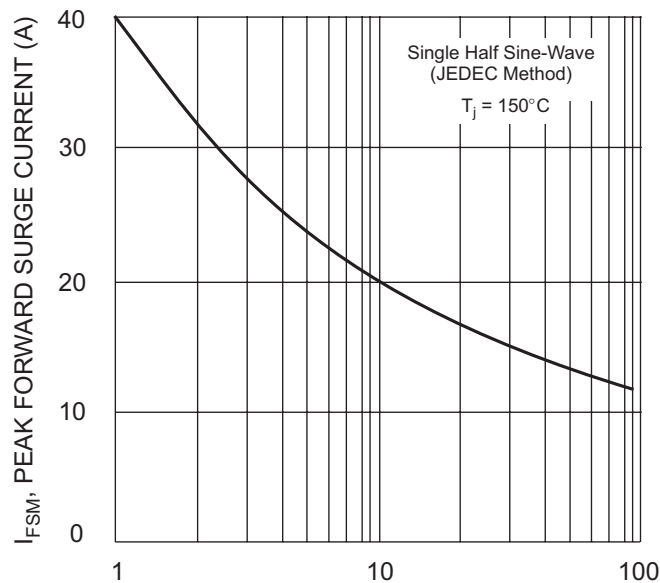
- Notes: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.  
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
 3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.



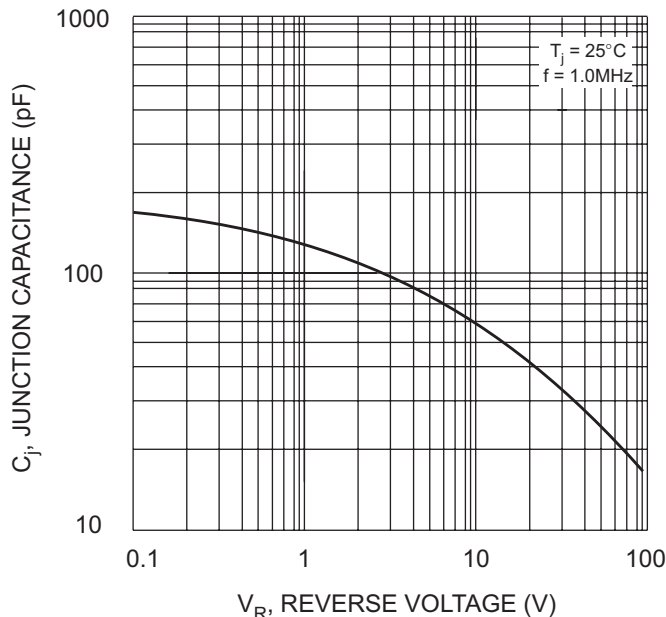
$T_L$ , LEAD TEMPERATURE ( $^{\circ}\text{C}$ )  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60 Hz  
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Junction Capacitance

## Ordering Information (Note 4)

Device	Packaging	Shipping
SB170-A	DO-41	5K/Ammo Pack
SB170-B	DO-41	1K/Bulk
SB170-T	DO-41	5K/Tape & Reel, 13-inch
SB180-A	DO-41	5K/Ammo Pack
SB180-B	DO-41	1K/Bulk
SB180-T	DO-41	5K/Tape & Reel, 13-inch
SB190-A	DO-41	5K/Ammo Pack
SB190-B	DO-41	1K/Bulk
SB190-T	DO-41	5K/Tape & Reel, 13-inch
SB1100-A	DO-41	5K/Ammo Pack
SB1100-B	DO-41	1K/Bulk
SB1100-T	DO-41	5K/Tape & Reel, 13-inch

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>