



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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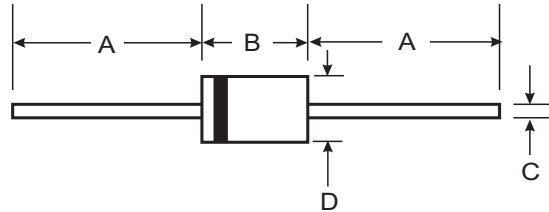
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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 40A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish, RoHS Compliant (Note 3)**



Mechanical Data

- Case: DO-41 Plastic
- 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 Plastic		
Dim	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

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

Characteristic	Symbol	SB120	SB130	SB140	SB150	SB160	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	50	60	V
Working Peak Reverse Voltage	V _{RWM}						
DC Blocking Voltage	V _R						
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	35	42	V
Average Rectified Output Current (Note 1)	I _o	1.0					A
(See Figure 1)							
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	40					A
Forward Voltage (Note 2)	V _{FM}	0.50		0.70			V
Peak Reverse Current	I _{RM}	0.5					mA
@ T _A = 25°C							
at Rated DC Blocking Voltage (Note 2)		10			5.0		
Typical Thermal Resistance Junction to Lead (Note 1)	R _{θJL}	15					°C/W
Typical Thermal Resistance Junction to Ambient	R _{θJA}	50					°C/W
Operating Temperature Range	T _j	-65 to +125			-65 to +150		°C
Storage Temperature Range	T _{STG}	-65 to +150					

- Notes: 1. Measured at ambient temperature at a distance of 9.5mm from the case.
2. Short duration test pulse used to minimize self-heating effect.
3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

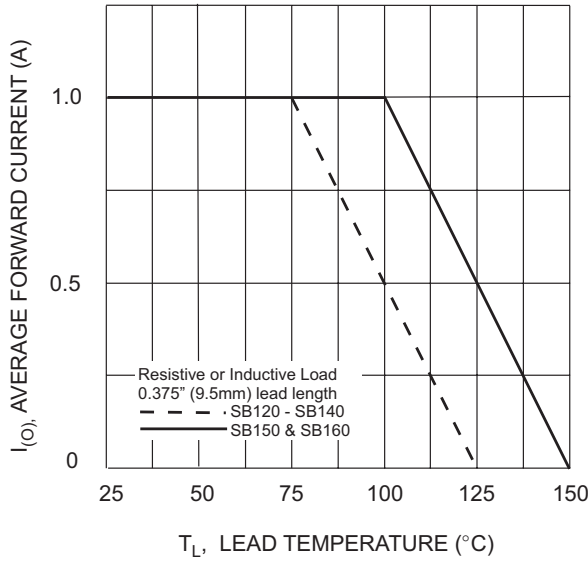


Fig. 1 Forward Current Derating Curve

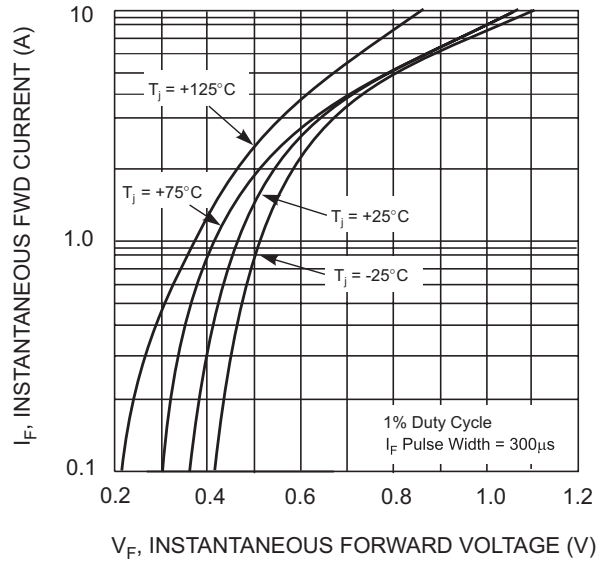


Fig. 2 Typical Forward Characteristics - SB120 thru SB140

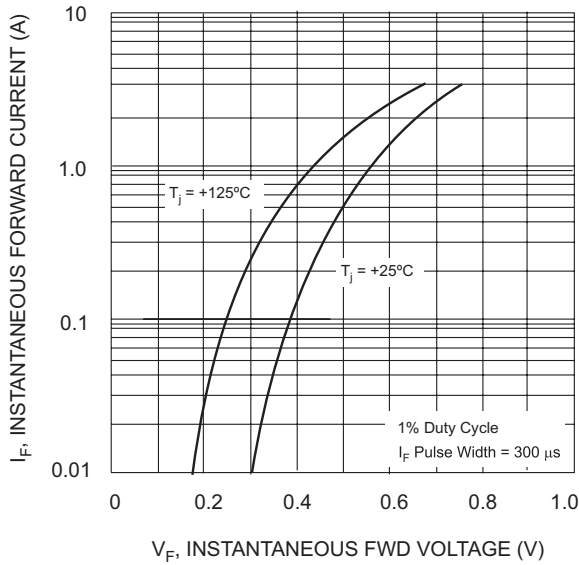


Fig. 3 Typ. Forward Characteristics - SB150 thru SB160

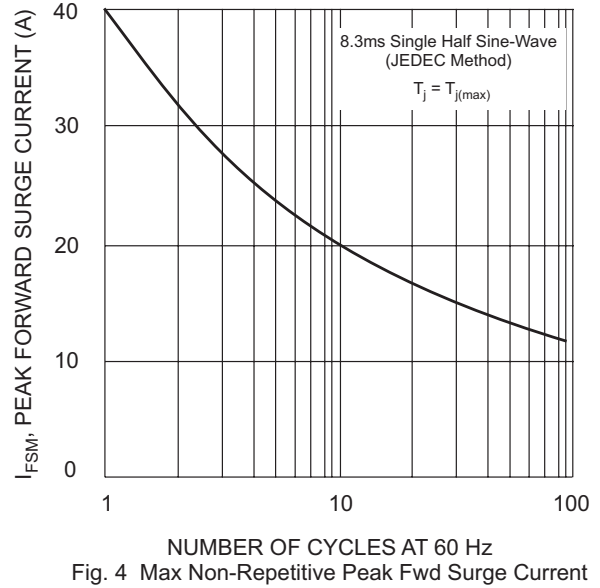


Fig. 4 Max Non-Repetitive Peak Fwd Surge Current

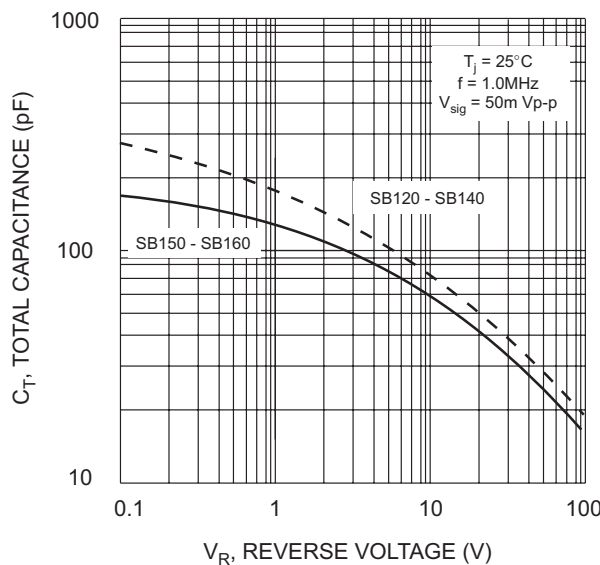


Fig. 5 Typical Total Capacitance

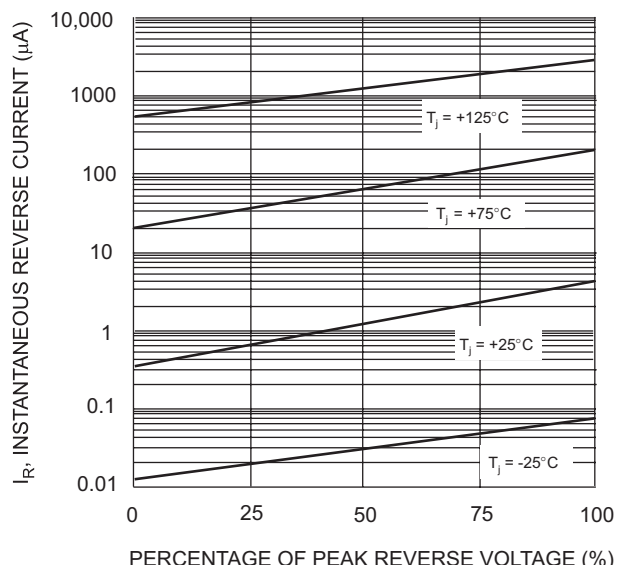
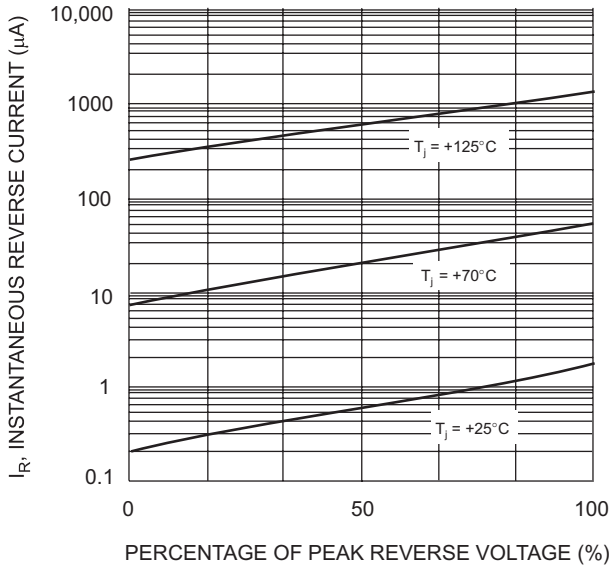


Fig. 6 Typical Reverse Characteristics, SB120 thru SB140



Ordering Information (Note 4)

Device	Packaging	Shipping
SB120-A	DO-41 Plastic	5K/Ammo Pack
SB120-B	DO-41 Plastic	1K/Bulk
SB120-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
SB130-A	DO-41 Plastic	5K/Ammo Pack
SB130-B	DO-41 Plastic	1K/Bulk
SB130-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
SB140-A	DO-41 Plastic	5K/Ammo Pack
SB140-B	DO-41 Plastic	1K/Bulk
SB140-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
SB150-A	DO-41 Plastic	5K/Ammo Pack
SB150-B	DO-41 Plastic	1K/Bulk
SB150-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
SB160-A	DO-41 Plastic	5K/Ammo Pack
SB160-B	DO-41 Plastic	1K/Bulk
SB160-T	DO-41 Plastic	5K/Tape & Reel, 13-inch

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