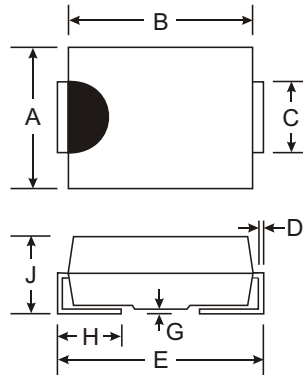


Features

- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 30A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- Plastic Material - UL Flammability Classification 94V-0



	SMA		SMB	
Dim	Min	Max	Min	Max
A	2.29	2.92	3.30	3.94
B	4.00	4.60	4.06	4.57
C	1.27	1.63	1.96	2.21
D	0.15	0.31	0.15	0.31
E	4.80	5.59	5.00	5.59
G	0.10	0.20	0.10	0.20
H	0.76	1.52	0.76	1.52
J	2.01	2.62	2.00	2.62
All Dimensions in mm				

Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please See Ordering Information, Note 4, on Page 3
- Polarity: Cathode Band or Cathode Notch
- Approx. Weight: SMA 0.064 grams
SMB 0.093 grams
- Marking: Type Number

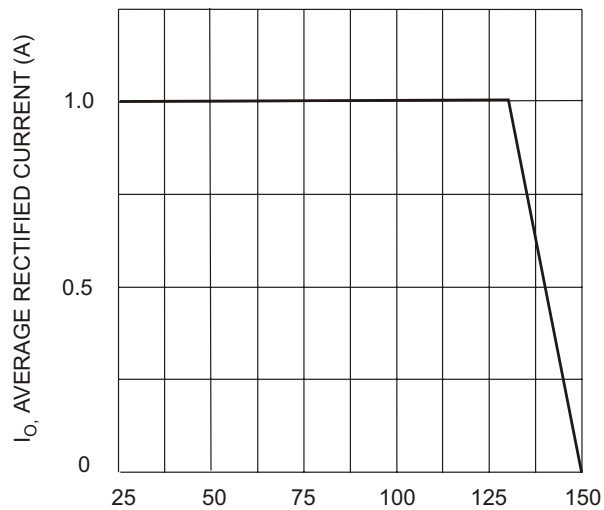
No Suffix Designates SMA Package
 "B" Suffix Designates SMB Package

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

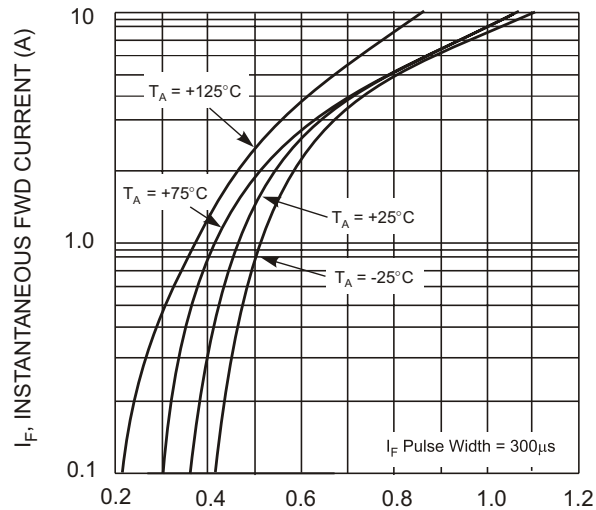
Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

Characteristic	Symbol	B120/B	B130/B	B140/B	B150/B	B160/B	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V
Average Rectified Output Current @ $T_T = 130^{\circ}C$	I_O	1.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30					A
Forward Voltage @ $I_F = 1.0A$	V_{FM}	0.50			0.70		V
Peak Reverse Current @ $T_A = 25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A = 100^{\circ}C$	I_{RM}	0.5 10					mA
Typical Junction Capacitance (Note 2)	C_j	110					pF
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{\theta JT}$	20					$^{\circ}C/W$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150					$^{\circ}C$

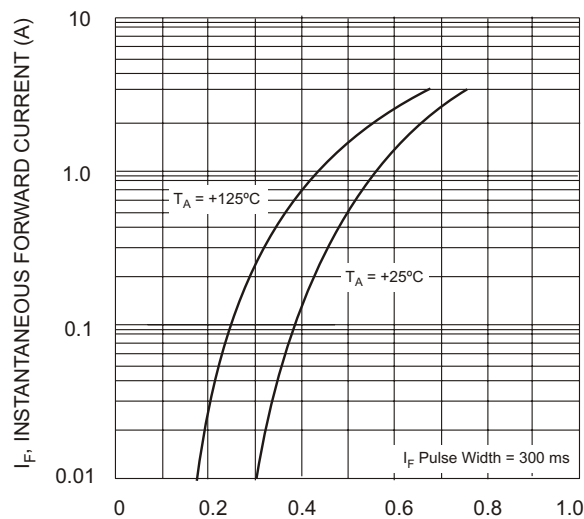
Notes: 1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.



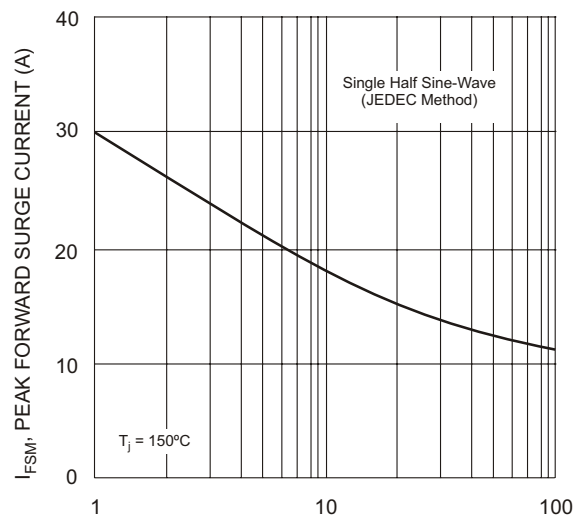
T_T , TERMINAL TEMPERATURE ($^{\circ}$ C)
Fig. 1 Forward Current Derating Curve



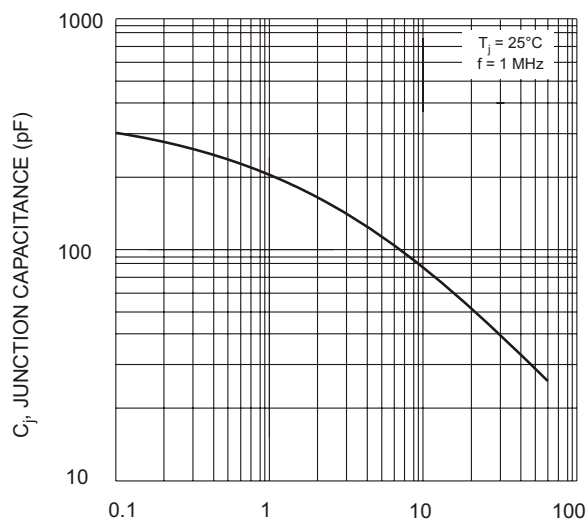
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics - B120/B thru B140/B



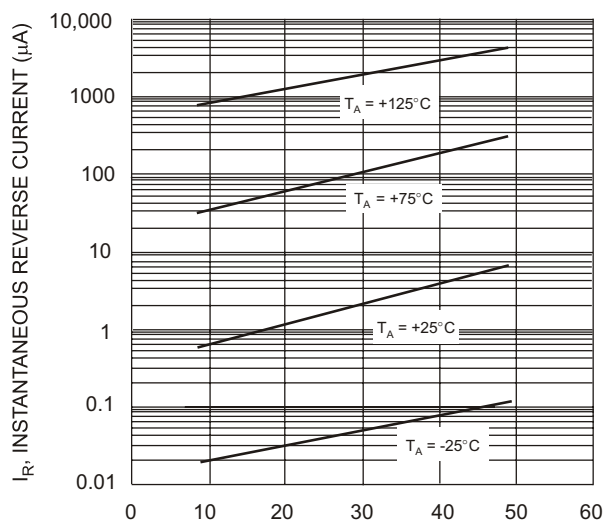
V_F , INSTANTANEOUS FWD VOLTAGE (V)
Fig. 3 Typ. Forward Characteristics - B150/B thru B160/B



NUMBER OF CYCLES AT 60 Hz
Fig. 4 Max Non-Repetitive Peak Fwd Surge Current



V_R , REVERSE VOLTAGE (V)
Fig. 5 Typical Junction Capacitance



V_R , INSTANTANEOUS REVERSE VOLTAGE (V)
Fig. 6 Typical Reverse Characteristics, B120/B thru B140/B

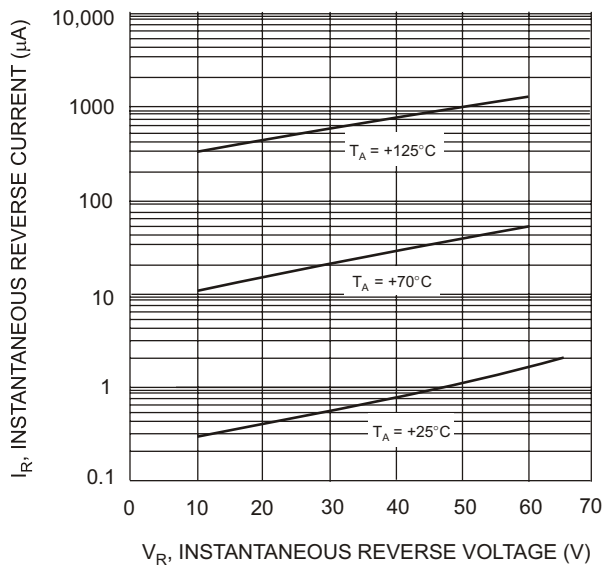
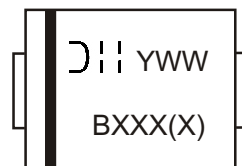


Fig. 7 Typical Reverse Characteristics, B150/B thru B160/B

Ordering Information (Note 3 & 4)

Device*	Packaging	Shipping
B1XX-13	SMA	5000/Tape & Reel
B1XXB-13	SMB	3000/Tape & Reel

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - * xx = Device type, e.g. B120-13 (SMA package); B120B-13 (SMB package).
 - For lead free terminal plating part number, please add "-F" suffix to part number above. Example: B120-13-F.



BXXX = Product type marking code, ex: B120 (SMA package)
 BXXXX = Product type marking code, ex: B160B (SMB package)
 D|| = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year ex: 2 for 2002
 WW = Week code 01 to 52

Note: Device has a cathode band (as shown above) and may also have a cathode notch (as shown on Page 1).