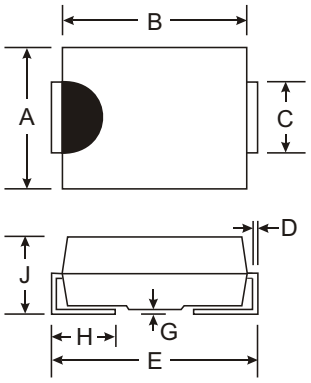
B170/B - B1100/B

1.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

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
- High Temperature Soldering: 260 C/10 Second at Terminal
- **Lead Free Finish/RoHS Compliant (Note 3)**



Dim	SMA		SMB	
	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	2.30	2.00	2.40
All Dimensions in mm				

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

Mechanical Data

- Case: SMA / SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- SMA Weight: 0.064 grams (approximate)
- SMB Weight: 0.093 grams (approximate)

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	B170/B	B180/B	B190/B	B1100/B	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_T = 125 C	I_O	1.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30				A
Forward Voltage @ I_F = 1.0A @ T_A = 25 C @ T_A = 100 C	V_{FM}	0.79 0.69				V
Peak Reverse Current @ T_A = 25 C at Rated DC Blocking Voltage @ T_A = 100 C	I_{RM}	0.5 5.0				mA
Typical Total Capacitance (Note 2)	C_T	80				pF
Typical Thermal Resistance Junction to Terminal (Note 1)	R_{JT}	25				°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150				C

Notes: 1. Valid provided that terminals are kept at ambient temperature.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see *EU Directive Annex Note 7.*

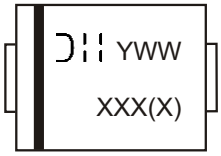
Ordering Information (Note 4)

Device*	Packaging	Shipping
B1x-13-F B1xB-13-F	SMA SMB	5000/Tape & Reel 3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

* x = Device type, e.g. B180-13-F (SMA package); B1100B-13-F (SMB package).

Marking Information



XXX = Product type marking code, ex: B170 (SMA package)
XXXX = Product type marking code, ex: B190B (SMB package)
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52

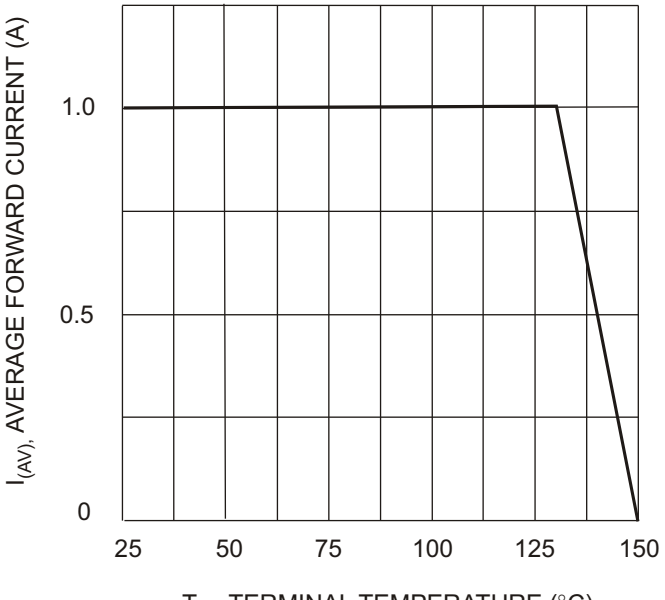


Fig. 1 Forward Current Derating Curve

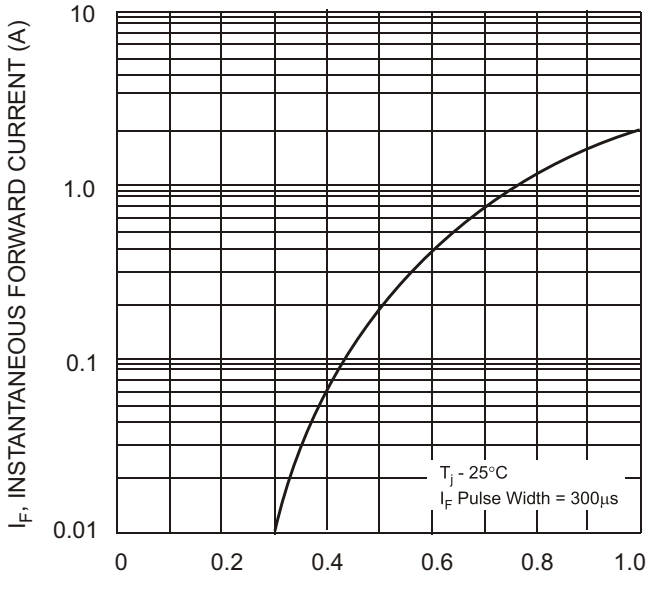


Fig. 2 Typical Forward Characteristics

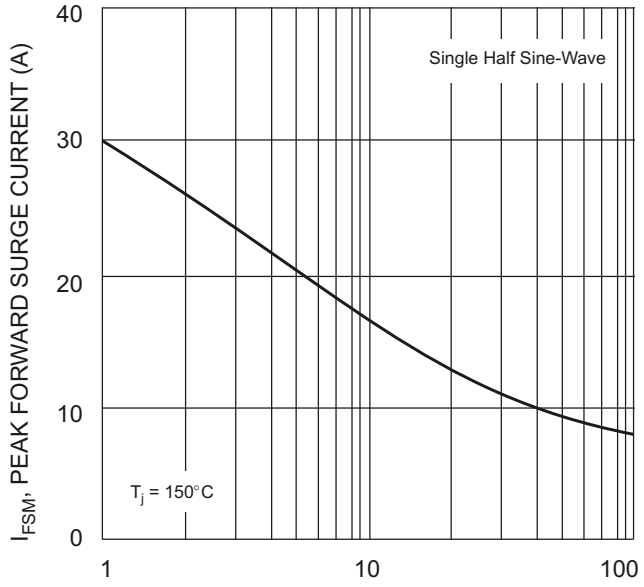


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

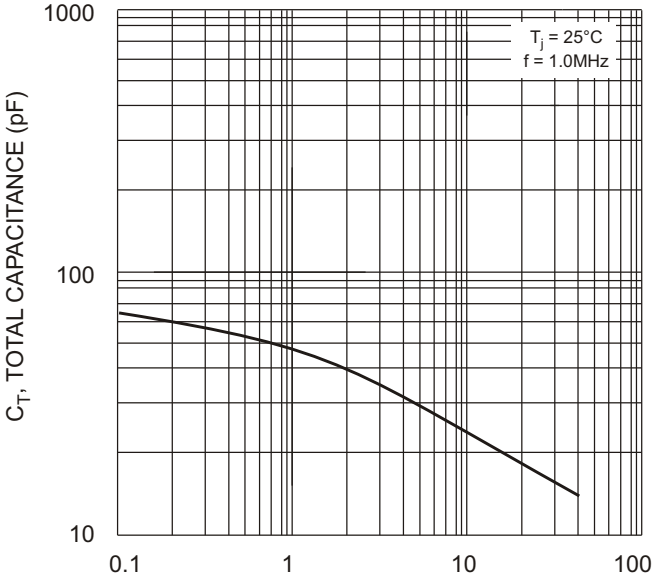


Fig. 4 Typical Total Capacitance

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