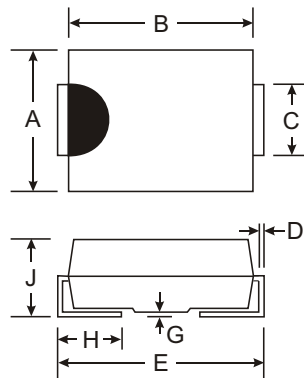


Features

- 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				

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)

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	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 at Rated DC Blocking Voltage @ T _A = 25 C @ 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.

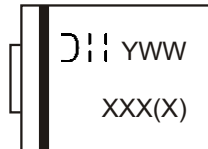
Ordering Information (Note 4)

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

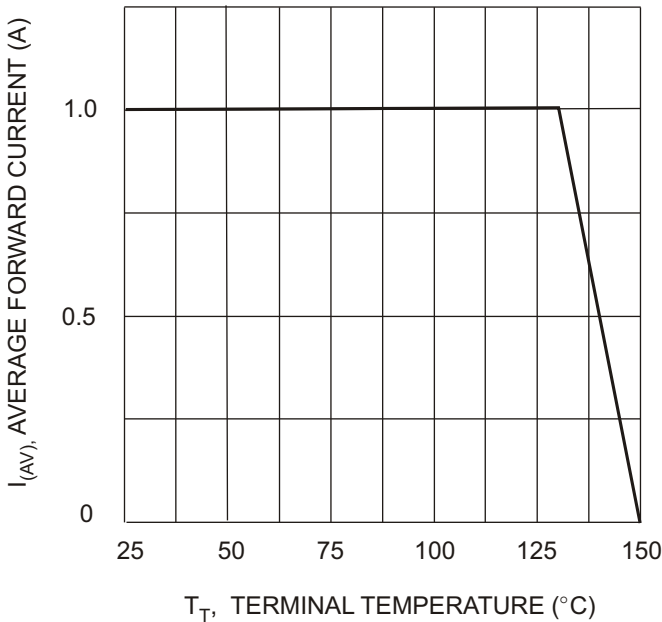
Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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

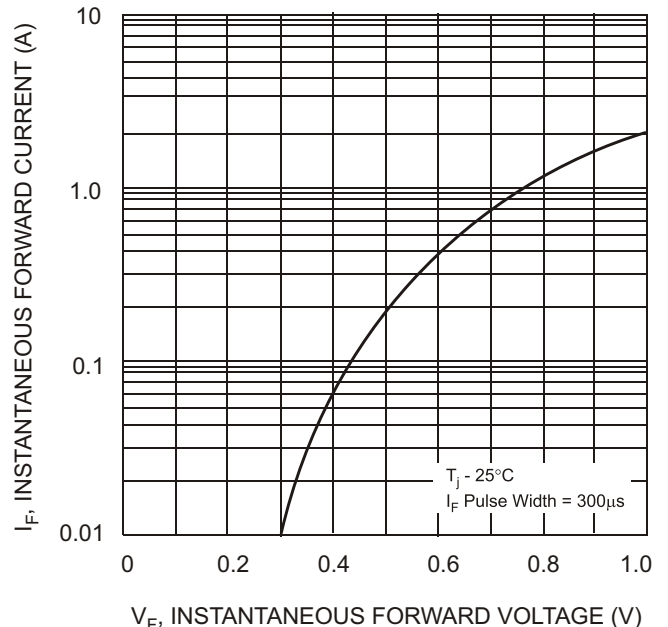
Marking Information



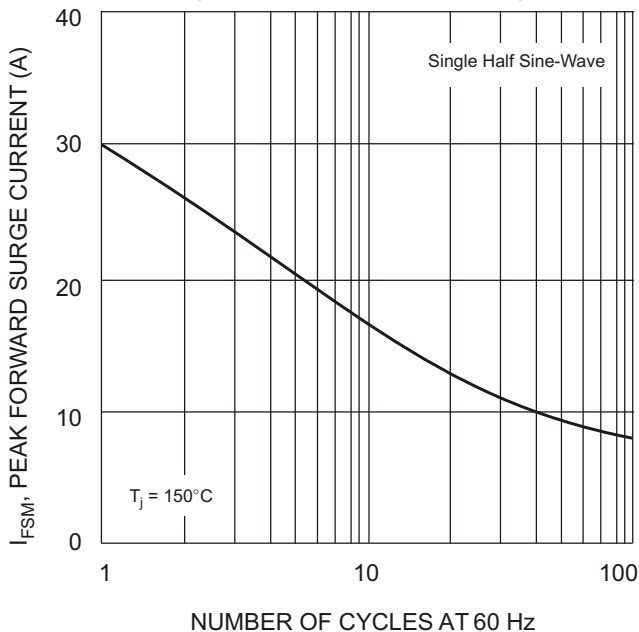
XXX = Product type marking code, ex: B170 (SMA package)
 XXXX = Product type marking code, ex: B190B (SMB package)
 D|| = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year ex: 2 for 2002
 WW = Week code 01 to 52



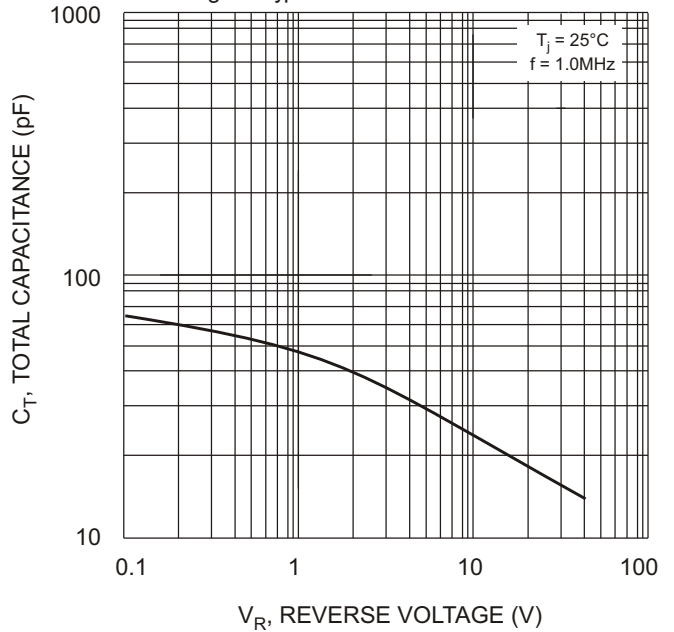
T_T , TERMINAL TEMPERATURE (°C)
 Fig. 1 Forward Current Derating Curve



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



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



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



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