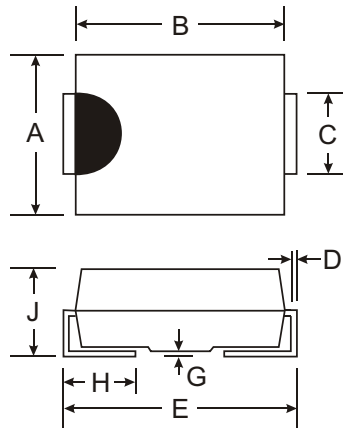


Features

- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 100A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Available in Lead Free Finish/RoHS Compliant Version (Note 3)**

Mechanical Data

- Case: SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- 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 5, on Page 2
- Polarity: Cathode Band or Cathode Notch
- Marking: B370, B380, B390: Type number B3100: B310
- Weight: 0.21 grams (approximate)



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
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	B370	B380	B390	B3100	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	70	80	90	100	V
Working Peak Reverse Voltage	V _{RWM}					
DC Blocking Voltage	V _R					
RMS Reverse Voltage	V _{R(RMS)}	49	56	63	70	V
Average Rectified Output Current @ T _T = 90°C	I _O	3.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	100				A
Forward Voltage @ I _F = 3.0A @ 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 20				mA
Typical Total Capacitance (Note 2)	C _T	100				pF
Typical Thermal Resistance Junction to Terminal (Note 1)	R _{θJT}	10				°C/W
Operating Temperature Range	T _J	-55 to +125				°C
Storage Temperature Range	T _{STG}	-55 to +150				°C

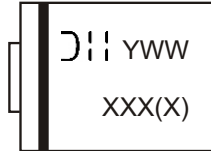
- Notes:
1. Valid provided that terminals are kept at ambient temperature.
 2. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.
 3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

Ordering Information (Note 4 & 5)

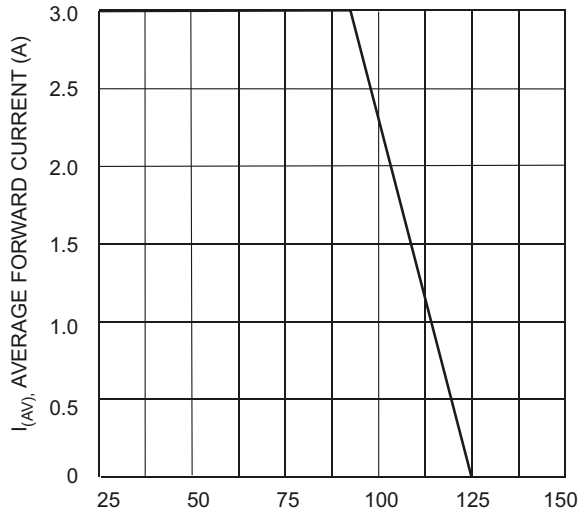
Device*	Packaging	Shipping
B3x-13	SMC	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 5. For Lead Free Finish/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: B390-13-F.

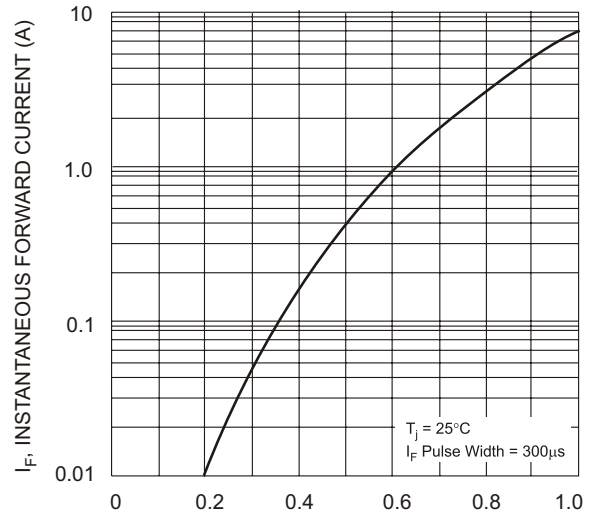
* x = Device type, e.g. B380-13 (SMC package).



XXXX = Product type marking code, ex: B380 (SMC 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

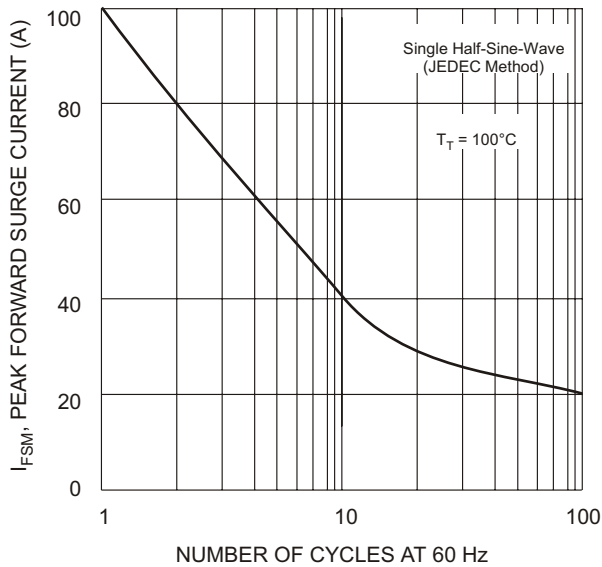


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

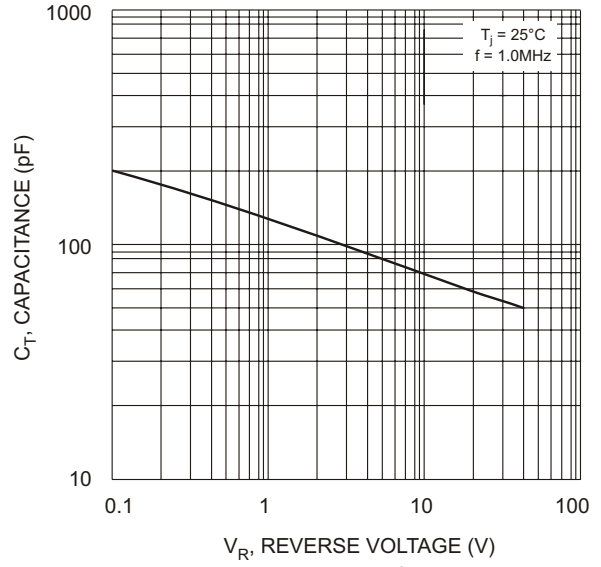


Fig. 4 Typical Total Capacitance