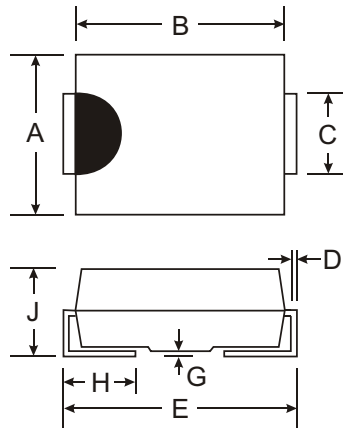


### Features

- 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

### Mechanical Data

- Case: SMC, Molded Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- 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 2
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (approx.)
- Marking: B370, B380, B390: Type number  
B3100: B310



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<sub>A</sub> = 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 Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	70	80	90	100	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	49	56	63	70	V
Average Rectified Output Current @ T <sub>T</sub> = 90°C	I <sub>O</sub>	3.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	100				A
Forward Voltage @ I <sub>F</sub> = 3.0A @ T <sub>A</sub> = 25°C @ T <sub>A</sub> = 100°C	V <sub>FM</sub>	0.79 0.69				V
Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>A</sub> = 25°C @ T <sub>A</sub> = 100°C	I <sub>RM</sub>	0.5 20				mA
Typical Total Capacitance (Note 2)	C <sub>T</sub>	100				pF
Typical Thermal Resistance Junction to Terminal (Note 1)	R <sub>θJT</sub>	10				°C/W
Operating Temperature Range	T <sub>J</sub>	-55 to +125				°C
Storage Temperature Range	T <sub>STG</sub>	-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.

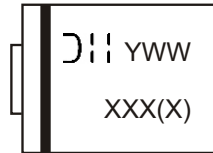
**Ordering Information** (Note 3 & 4)

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

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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

4. For lead free terminal plating part number, please add "-F" suffix to part number above. Example: B390-13-F.



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

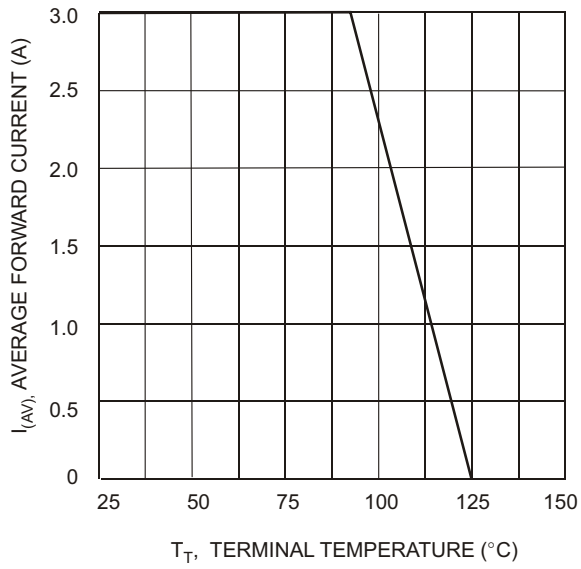


Fig. 1 Forward Current Derating Curve

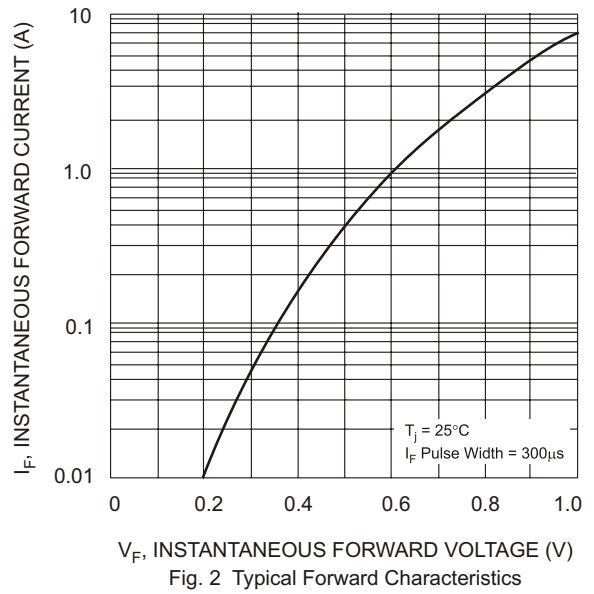


Fig. 2 Typical Forward Characteristics

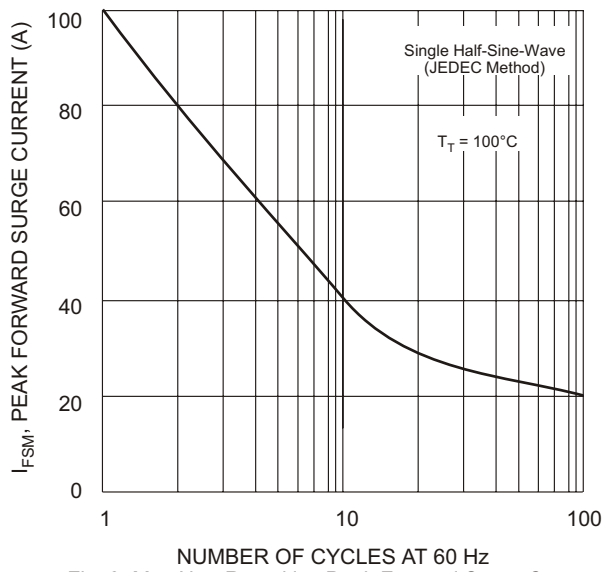


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

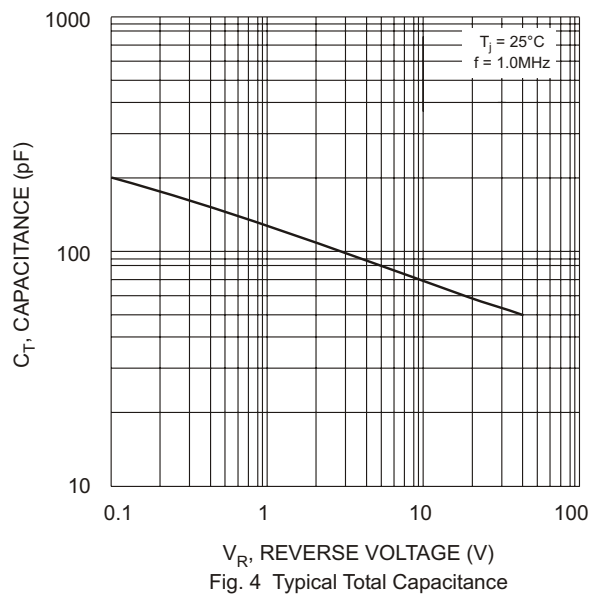


Fig. 4 Typical Total Capacitance