

# B370 - B3100

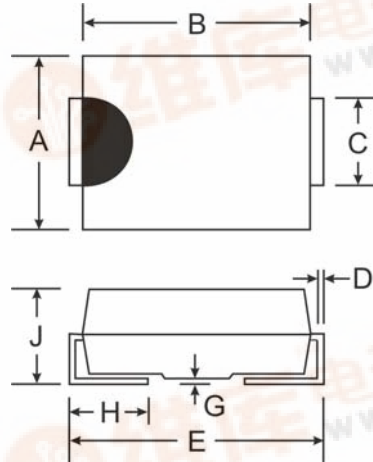
## 3.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

### Features

- Guard Ring Die Construction for Transient Protection
- 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
- **Lead Free Finish/RoHS Compliant (Note 2)**

### Mechanical Data

- Case: SMC
- 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 Information: See Page 3
- Ordering Information: See Page 3
- 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		

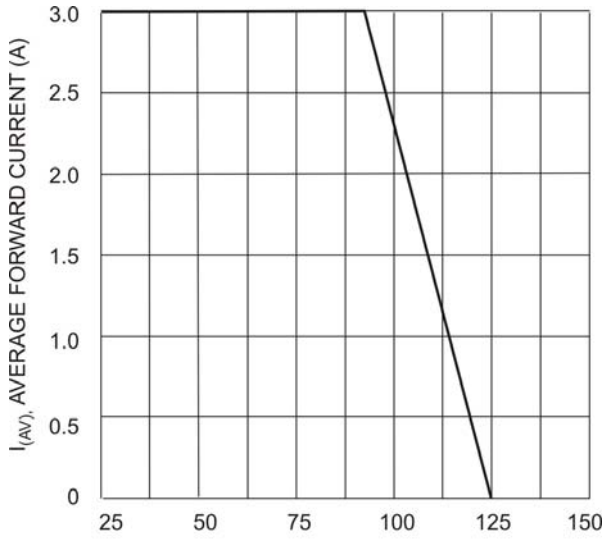
### Maximum Ratings and Electrical Characteristics

@T<sub>A</sub> = 25°C unless otherwise specified

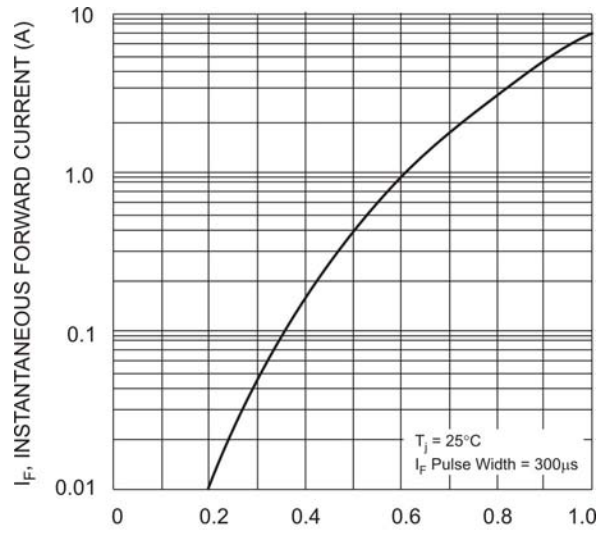
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	B370	B380	B390	B3100	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>					
Working Peak Reverse Voltage	V <sub>RWM</sub>	70	80	90	100	V
DC Blocking Voltage	V <sub>R</sub>					
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	I <sub>FSM</sub>	100				A
Forward Voltage @ I <sub>F</sub> = 3.0A @ T <sub>A</sub> = 25°C	V <sub>FM</sub>	0.79				V
		@ T <sub>A</sub> = 100°C				0.69
Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>A</sub> = 25°C	I <sub>RM</sub>	0.5				mA
		@ T <sub>A</sub> = 100°C				20
Typical Total Capacitance (Note 1)	C <sub>T</sub>	100				pF
Typical Thermal Resistance Junction to Terminal	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. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.  
2. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see EU Directive Annex Note 7.



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



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

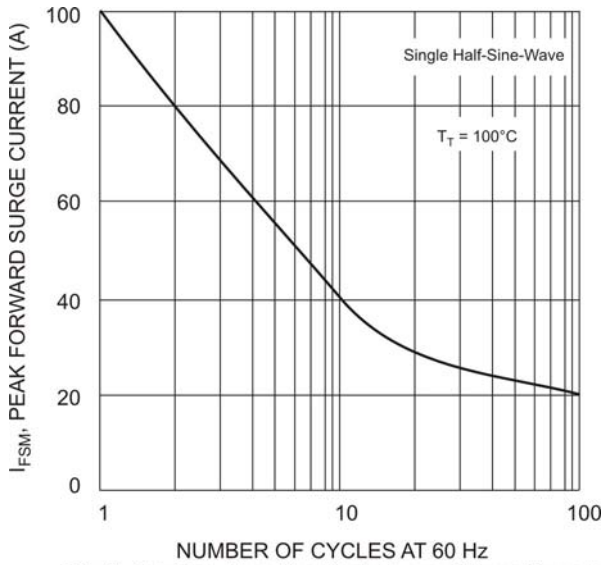
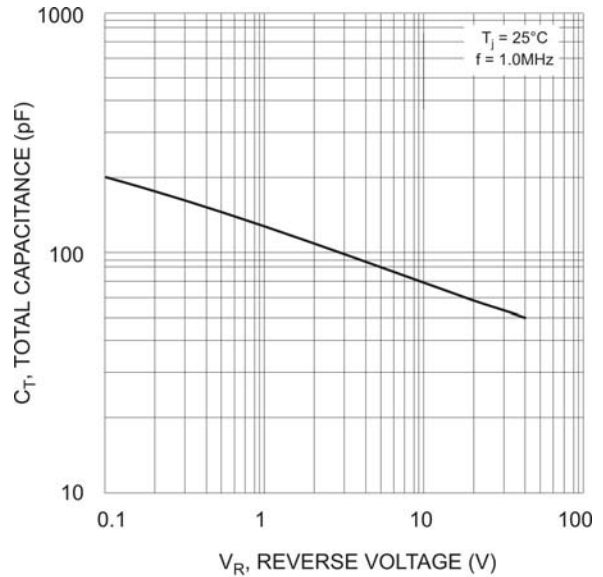


Fig. 3 Max Non-Repetitive Peak Forward Surge Current



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



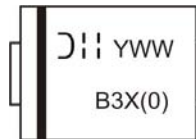
## Ordering Information (Note 3)

Device*	Packaging	Shipping
B3x0-13-F	SMC	3000/Tape & Reel

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

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

## Marking Information



B3X0 = Product type marking code, ex: B380 (SMC package)  
⌋; = Manufacturers' code marking  
YWW = Date code marking  
Y = Last digit of year ex: 2 for 2002  
WW = Week code 01 to 52  
Note: B3100 marking code is B310

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