
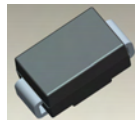


**3.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER**
**Features**

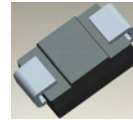
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 100A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish/RoHS Compliant (Note 1)**

**Mechanical Data**

- Case: SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 
- Polarity: Cathode Band or Cathode Notch
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.21 grams (approximate)



Top View



Bottom View

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

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

Characteristic	Symbol	B370	B380	B390	B3100	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	70	80	90	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>					
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

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
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

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	-	-	0.79 0.69	V	I <sub>F</sub> = 3.0A, T <sub>A</sub> = 25°C I <sub>F</sub> = 3.0A, T <sub>A</sub> = 25°C
Leakage Current (Note 2)	I <sub>R</sub>	-	-	0.5 20	mA	@ Rated V <sub>R</sub> , T <sub>A</sub> = 25°C @ Rated V <sub>R</sub> , T <sub>A</sub> = 100°C
Total Capacitance	C <sub>T</sub>	-	-	100	pF	V <sub>R</sub> = 4V, f = 1MHz

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes*.
  2. Short duration pulse test used to minimize self-heating effect.

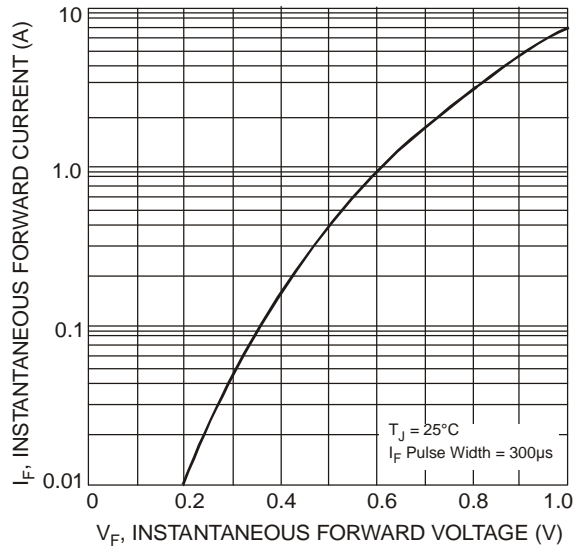


Fig. 1 Typical Forward Characteristics

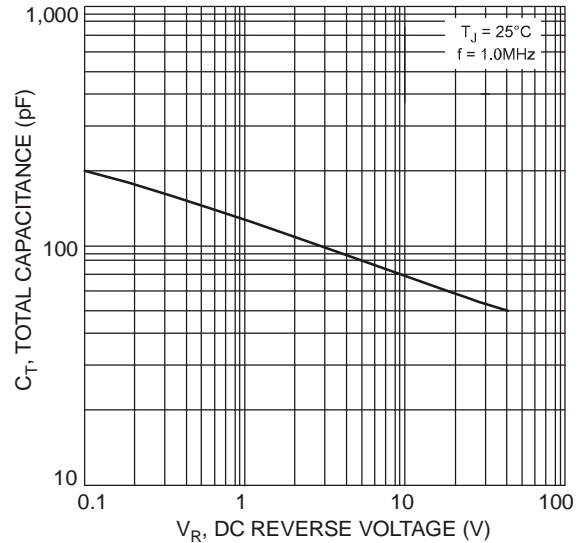


Fig. 2 Total Capacitance vs. Reverse Voltage

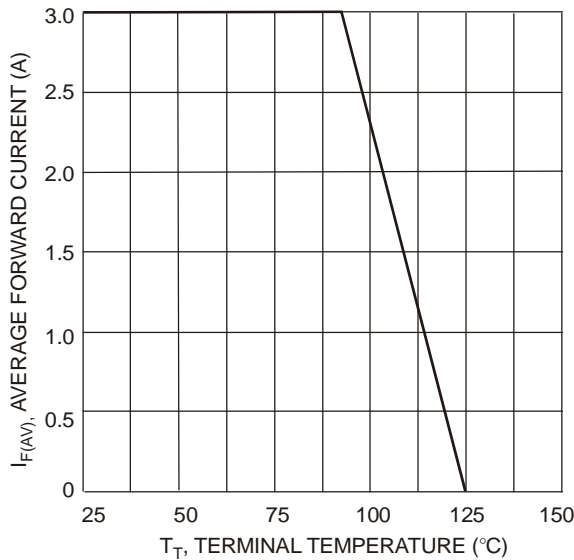


Fig. 3 Forward Current Derating Curve

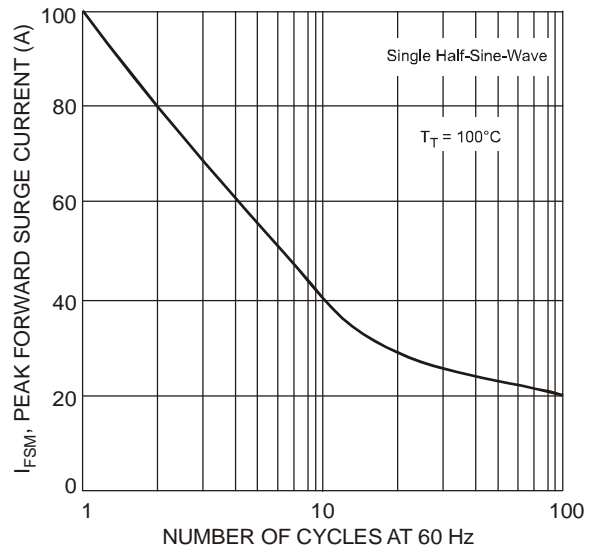


Fig. 4 Max Non-Repetitive Peak Forward Surge Current

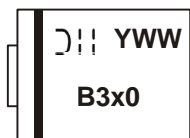
## Ordering Information (Note 3)

Part Number*	Case	Packaging
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)

311 = Manufacturers' code marking

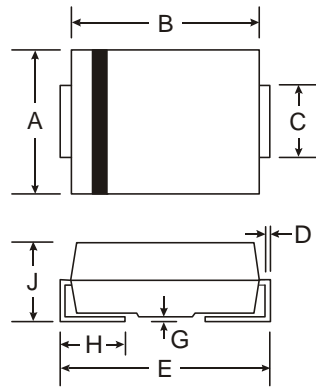
YWW = Date code marking

Y = Last digit of year ex: 2 for 2002

WW = Week code 01 to 52

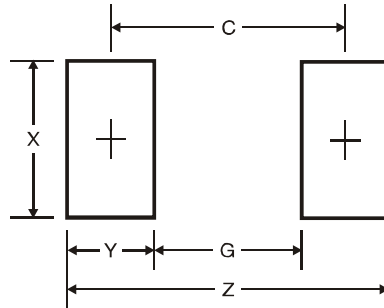
Note: B3100 marking code is B310

## Package Outline Dimensions



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		

## Suggested Pad Layout



Dimensions	Value (in mm)
Z	9.3
G	4.4
X	3.3
Y	2.5
C	6.8

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