



B370-B3100

May 2022

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 (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability. https://www.diodes.com/quality/product-definitions/
- An Automotive-Compliant Part is Available Under Separate Datasheet (B370Q-B3100Q)

Mechanical Data

- Package: SMC
- Package Material: Molded Plastic. UL Flammability Classification
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (Approximate)

SMC







Ordering Information (Note 4)

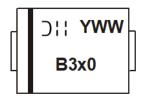
Part Number*	Backago	Package	
	Package	Qty.	Carrier
B3x0-13-F	SMC	3000	Tape & Reel

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

Notes:

- 1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
- 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green"
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/

Marking Information



B3x0 = Product Type Marking Code, ex: B380 (SMC Package)

☐ = Manufacturer's Code Marking YWW = Date Code Marking Y = Last Digit of Year (ex: 2 for 2022)

WW = Week Code (01 to 53) Note: B3100 Marking Code is B3100

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Maximum Ratings (@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 Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	70	80	90	100	V
RMS Reverse Voltage	V _R (RMS)	49	56	63	70	V
Average Rectified Output Current @ T _T = +90°C	lo	3.0			Α	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	IFSM	100			А	

Thermal Characteristics

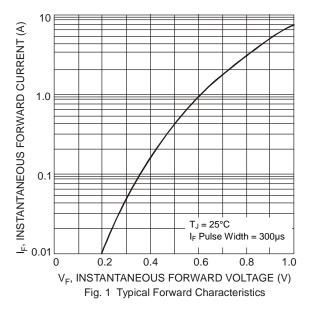
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal	R _θ JT	10	°C/W
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

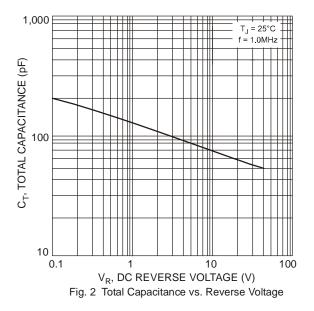
Electrical Characteristics (@TA = +25°C, unless otherwise specified.)

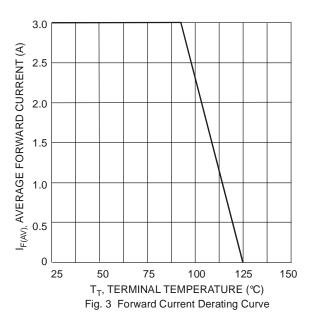
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	VF		_	0.79		IF = 3.0A, T _A = +25°C
			_	0.69		$I_F = 3.0A, T_A = +100$ °C
Laglage Current (Note 5)	1-			0.5	mΔ	@ Rated V _R , T _A = +25°C
Leakage Current (Note 5)	IR —	_	_	20		@ Rated V _R , T _A = +100°C
Total Capacitance	Ст	_	100	_	pF	$V_R = 4V, f = 1MHz$

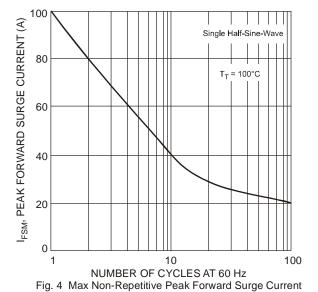
Note: 5. Short duration pulse test used to minimize self-heating effect.









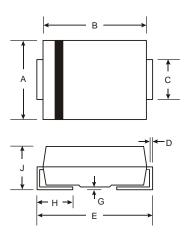




Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SMC

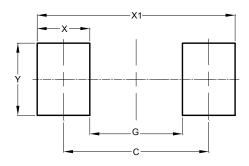


SMC					
Dim	Min	Max			
Α	5.59	6.22			
В	6.60	7.11			
С	2.75	3.18			
D	0.15	0.31			
Е	7.75	8.13			
G	0.10	0.20			
Н	0.76	1.52			
J	2.00	2.50			
All Dimensions in mm					

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SMC



Dimensions	value				
Difficusions	(in mm)				
С	6.90				
G	4.40				
Х	2.50				
X1	9.40				
Y	3.30				



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