



3.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

Product Summary

DIODES™ B370Q/B380Q/B390Q/B3100Q

V _{RRM} (V)	I _O (A)	V _F max (V)	I _{R max} (mA)	
70/80/90/100	3.0	0.79	0.5	

Description and Applications

This Schottky Barrier Rectifier has been designed to meet the general requirements of commercial applications. It is ideally suited for use as:

- Polarity protection diodes
- Re-circulating diodes
- Switching diodes

Features and Benefits

- 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)
- The B370Q B3100Q are suitable for automotive applications requiring specific change control; these parts are AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.

https://www.diodes.com/quality/product-definitions/

Mechanical Data

- Package: SMC
- Package Material: Molded Plastic, "Green" Molding Compound.
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (3)
- Polarity: Cathode Band
- Weight: 0.21 grams (Approximate)



Top View



Bottom View

Ordering Information (Note 4)

Part Number	Dookono	Packing		
Part Number	Package	Qty.	Carrier	
B370Q-13-F	SMC	3000	Tape & Reel	
B380Q-13-F	SMC	3000	Tape & Reel	
B390Q-13-F	SMC	3000	Tape & Reel	
B3100Q-13-F	SMC	3000	Tape & Reel	

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" and Lead-free.
- 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) B3XX0 = Product Type Marking Code, ex: B3100 (SMC Package)

>!! = Manufacturers' Code Marking
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 2 for 2022)
 WW = Week Code (01 to 53)



Maximum Ratings (@TA = +25°C, unless otherwise specified.)

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

Characteristic	Symbol	B370Q	B380Q	B390Q	B3100Q	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	I _{FSM}		10	00		A

Thermal Characteristics

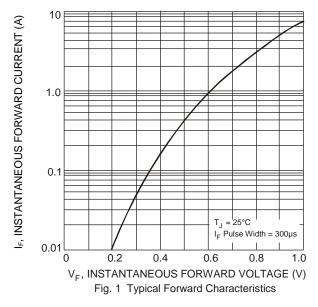
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal	$R_{ heta JT}$	10	°C/W
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

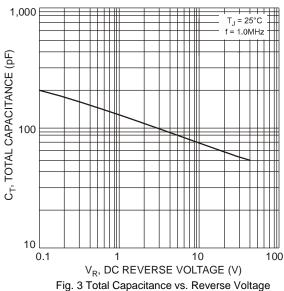
Electrical Characteristics (@TA = +25°C, unless otherwise specified.)

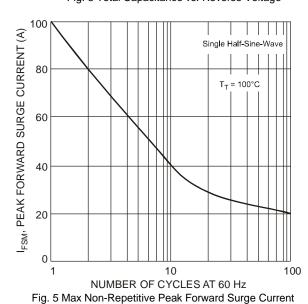
Characteristic		Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	\/-		-	0.79	/	IF = 3.0A, T _A = +25°C
Tolward Voltage Diop	VF	_	_	0.69		$I_F = 3.0A, T_A = +100^{\circ}C$
Leakage Current (Note 5)	IR		-	0.5	m ^	@ Rated V _R , T _A = +25°C
Leakage Current (Note 5)		_	_	20	mA	@ Rated V _R , T _A = +100°C
Total Capacitance	Ст	_	100	_	pF	$V_R = 4V$, $f = 1MHz$

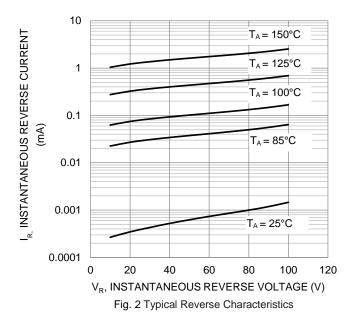
Note: 5. Short duration pulse test used to minimize self-heating effect.

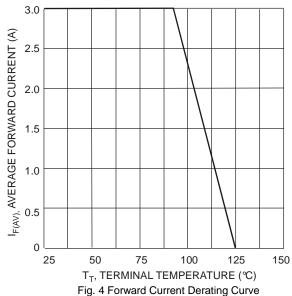










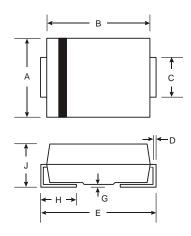




Package Outline Dimensions

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

SMC

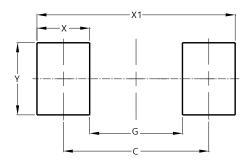


SMC				
Dim	Min	Max		
Α	5.59	6.22		
В	6.60	7.11		
С	2.75	3.18		
D	0.15	0.31		
E	7.75	8.13		
G	0.10	0.20		
Н	0.76	1.52		
J	2.00	2.50		
All Dimensions in mm				

Suggested Pad Layout

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

SMC



Dimensions	(in mm)			
С	6.90			
G	4.40			
X	2.50			
X1	9.40			
Y	3.30			



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