



2.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

Product Summary (@ +25°C)

B270Q			
V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (μA)
70	2.0	0.79	7

B280Q

V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (μΑ)
80	2.0	0.79	7

B290Q

V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (μA)
90	2.0	0.79	7

B2100Q

V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (μA)
100	2.0	0.79	7

Description and Applications

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

- Polarity Protection Diode
- Re-Circulating Diode
- Switching Diode

Features and Benefits

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: +260°C/10 second at Terminal
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

Mechanical Data

- Case: SMB
- Case 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: 0.093 grams (Approximate)



Top View



Bottom View

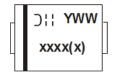
Ordering Information (Note 5)

Part Number	Compliance	Case	Packaging
B2xxxQ-13-F	Automotive	SMB	3,000/Tape & Reel

Notes:

- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied
- 2. See http://www.diodes.com/quality/lead_free.html 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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to http://www.diodes.com/quality/product_compliance_definitions/.
- $5.\ For\ packaging\ details,\ go\ to\ our\ website\ at\ http"//www.diodes.com/products/packages.html.$

Marking Information



XXXX = Product Type Marking Code, ex: B290 (SMB Package)

>|| = Manufacturers' Code Marking

YWW = Date Code Marking

Y = Last Digit of Year (ex: 16 for 2016)

WW = Week Code (01 to 53)



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

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

Characteristic	Symbol	B270Q	B280Q	B290Q	B2100Q	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	70	80	90	100	>
RMS Reverse Voltage	V _{R(RMS)}	49	56	63	70	V
Average Rectified Output Current @ T _T = +125°C	lo		2.	.0		Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}		5	0		Α

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 6)	$R_{ heta JT}$	15	°C/W
Operating and Storage Temperature Range	$T_{J_1}T_{STG}$	-65 to +150	°C

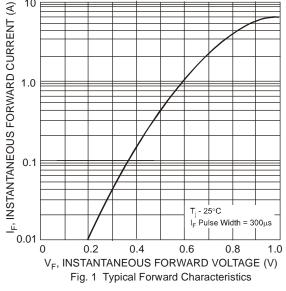
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

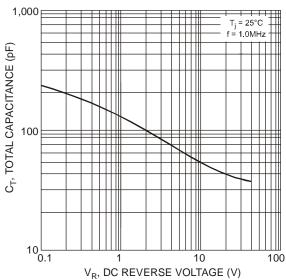
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	V _F	_	_	0.79 0.69	V	I _F = 2.0A, T _A = +25°C I _F = 2.0A, T _A = +100°C
Leakage Current (Note 7)	I _R	_	_	7.0 2.0	μA mA	@ Rated V_R , $T_A = +25^{\circ}C$ @ Rated V_R , $T_A = +100^{\circ}C$
Total Capacitance	C _T	_	_	75	pF	$V_R = 4V, f = 1MHz$

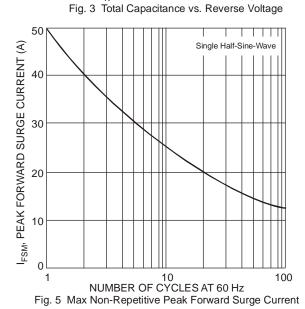
Notes:

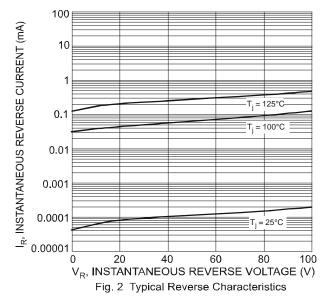
- Valid provided that terminals are kept at ambient temperature.
 Short duration pulse test used to minimize self-heating effect.

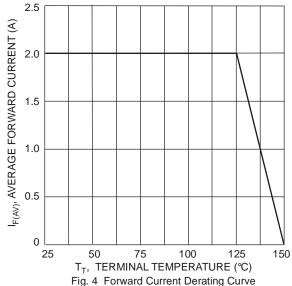








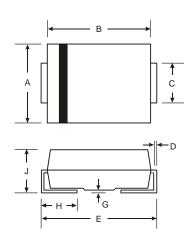






Package Outline Dimensions

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.

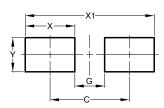


SMB

SMB				
Dim	Min	Max		
Α	3.30	3.94		
В	4.06	4.57		
С	1.96	2.21		
D	0.15	0.31		
Е	5.00	5.59		
G	0.05	0.20		
Н	0.76	1.52		
J	2.00	2.50		
All Din	nensions	in mm		

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



SMB

Dimensions	Value (in mm)
С	4.30
G	1.80
Х	2.50
X1	6.80
Y	2.30



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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина,

дом 2, корпус 4, литера А.