THE DATASHEET OF

B2100A-13-F

2.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

Product Summary (@ T_A = +25°C)

V_{RRM} (V)	I_O (A)	$V_{F(MAX)}$ (V)	$I_{R(MAX)}$ (mA)
100	2	0.79	0.5

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)**

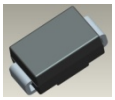
Description and Applications

The B2100A is a single rectifier packaged in the low profile SMA package. Providing low VF and excellent high temperature stability this device is ideal for use in general rectification applications such as:

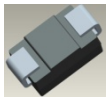
- Boost Diode
- Blocking Diode

Mechanical Data

- Case: SMA
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.064 grams (approximate)



Top View



Bottom View

Ordering Information (Note 4)

Part Number	Case	Packaging
B2100A-13-F	SMA	5000/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. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information

B2100A = Product Type Marking Code
= Manufacturers' code marking
YWW = Date Code Marking
Y = Last digit of year (ex: 13 for 2013)
WW = Week code (01 to 53)

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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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	100	V
Average Rectified Output Current (See Figure 1)	I_O	2.0	A
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	50	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 5)	$R_{\theta JT}$	25	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	—	—	0.79	V	I_F = 2.0A, T_A = +25°C
		—	—	0.69	V	I_F = 2.0A, T_A= +100°C
Peak Reverse Current at Rated DC Blocking Voltage	I_{RM}	—	—	0.5	mA	V_R =100V, T_A= +25°C
		—	—	15	mA	V_R = 100V, T_A = +100°C
Typical Total Capacitance (Note 6)	C_T		75	—	pF	V_R =4V, f = 1MHz

Notes: 5. Valid provided that terminals are kept at ambient temperature.
6. Short duration pulse test used to minimize self-heating effect.

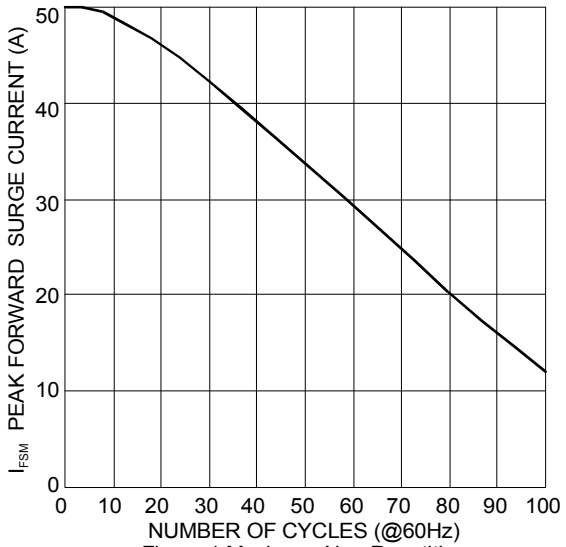

Figure 1 Maximum Non-Repetitive Peak Forward Surge Current

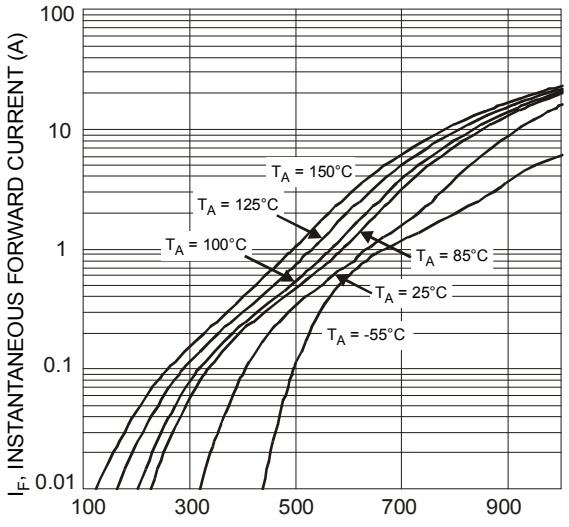

Figure 2 Typical Forward Characteristics

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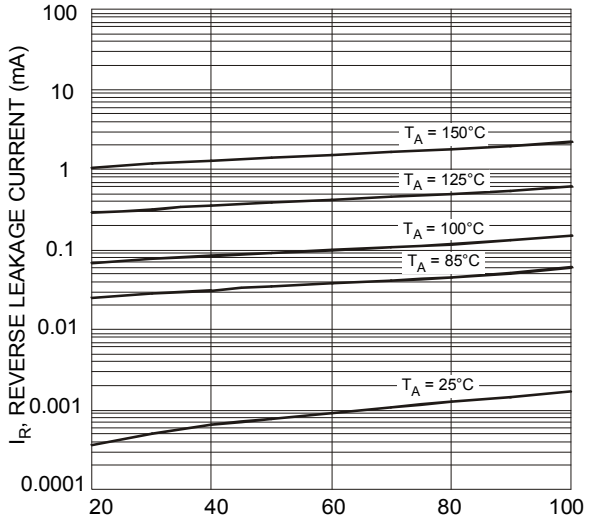


Figure 3 Typical Reverse Characteristics

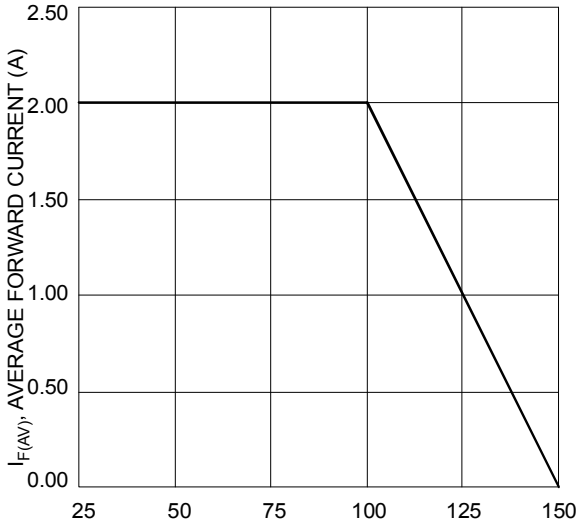


Figure 4 Forward Current Derating Curve

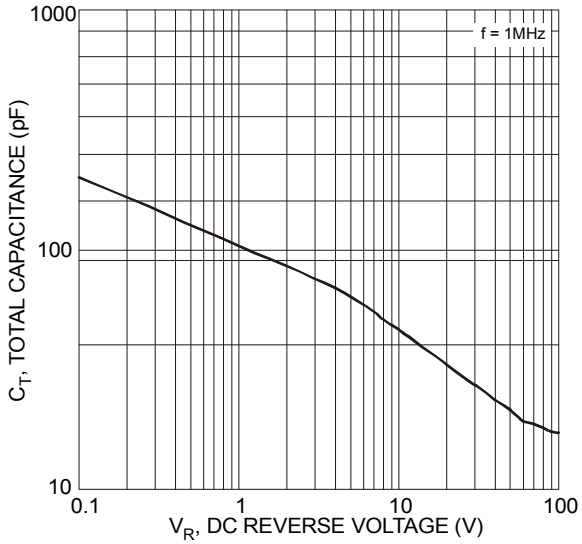
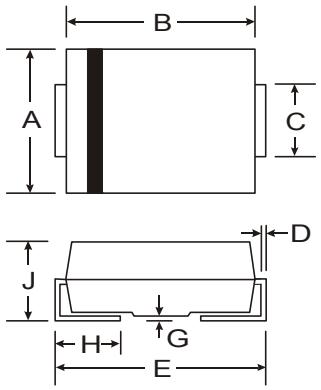


Figure 5 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



SMA		
Dim	**Min**	**Max**
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

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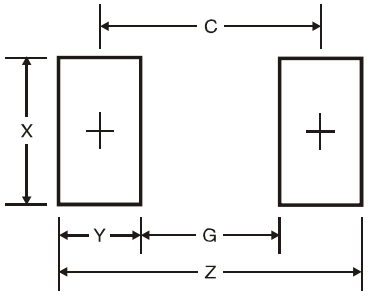
Suggested Pad Layout

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



Dimensions	Value (in mm)
Z	6.5
G	1.5
X	1.7
Y	2.5
C	4.0

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