

**Product Summary** (@ T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F(MAX)</sub> (V)	I <sub>R(MAX)</sub> (mA)
100	2	0.79	0.5

**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:

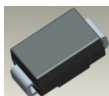
- Boost Diode
- Blocking Diode

**Features and Benefits**

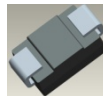
- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at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

**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 
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.064 grams (approximate)



Top View

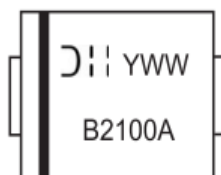


Bottom View

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

## 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	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current (See Figure 1)	I <sub>O</sub>	2.0	A
RMS Reverse Voltage	V <sub>R(RMS)</sub>	70	V
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	50	A

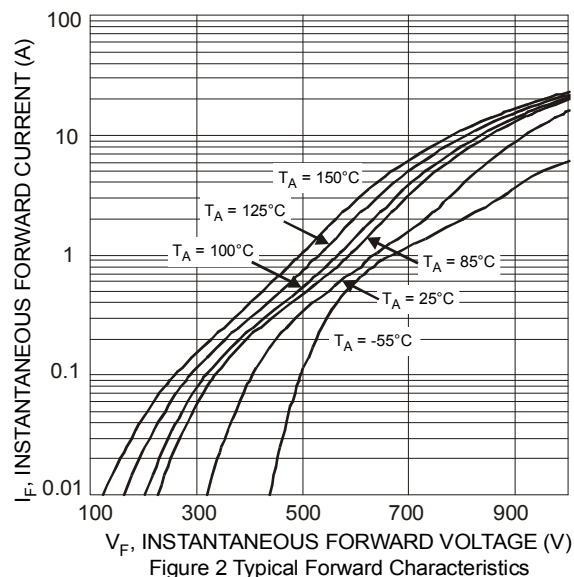
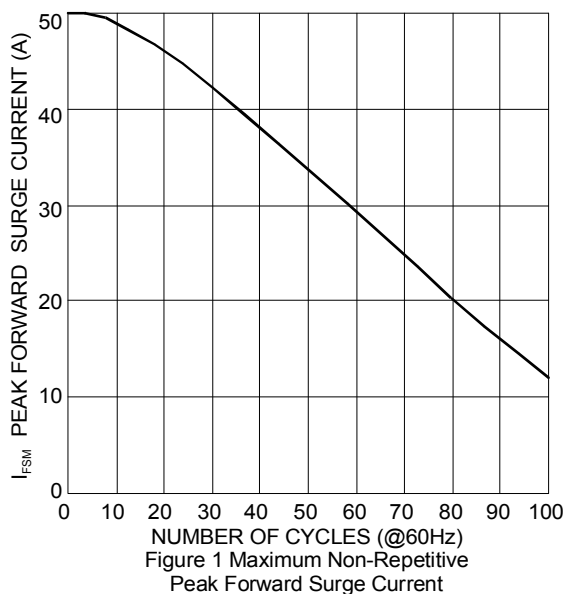
## Thermal Characteristics

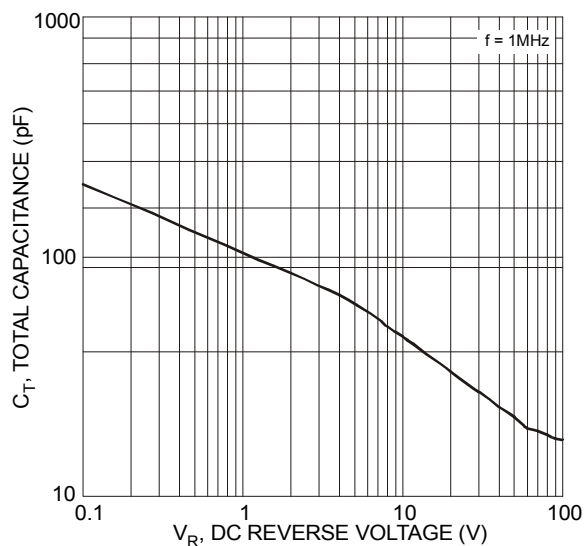
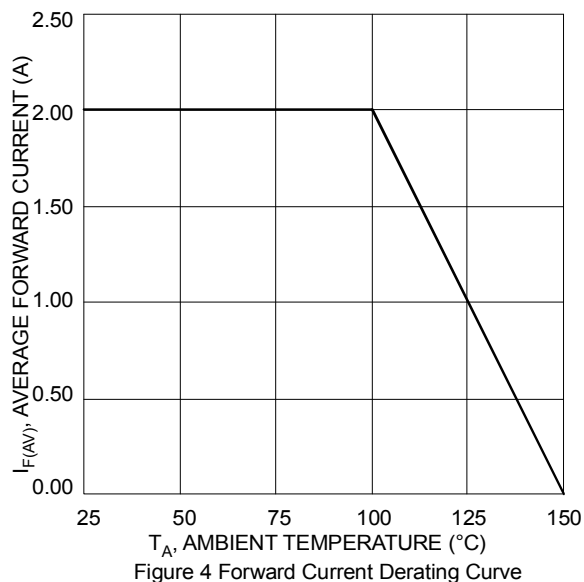
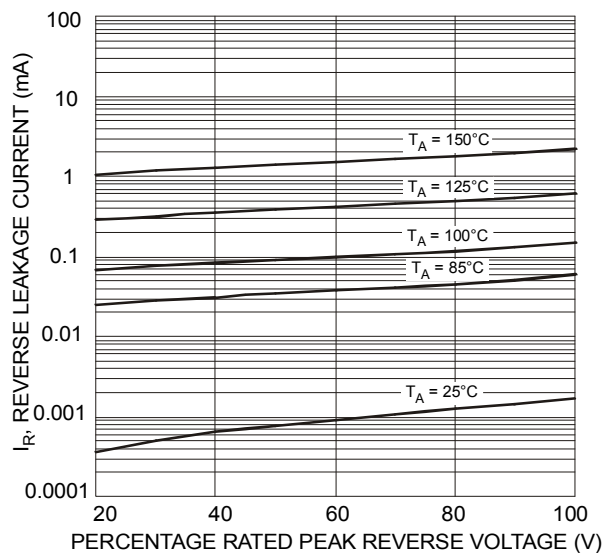
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 5)	R <sub>θJT</sub>	25	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125	°C

## 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	V	I <sub>F</sub> = 2.0A, T <sub>A</sub> = +25°C
		—	—	0.69	V	I <sub>F</sub> = 2.0A, T <sub>A</sub> = +100°C
Peak Reverse Current at Rated DC Blocking Voltage	I <sub>RM</sub>	—	—	0.5	mA	V <sub>R</sub> = 100V, T <sub>A</sub> = +25°C
		—	—	15	mA	V <sub>R</sub> = 100V, T <sub>A</sub> = +100°C
Typical Total Capacitance (Note 6)	C <sub>T</sub>	—	75	—	pF	V <sub>R</sub> = 4V, f = 1MHz

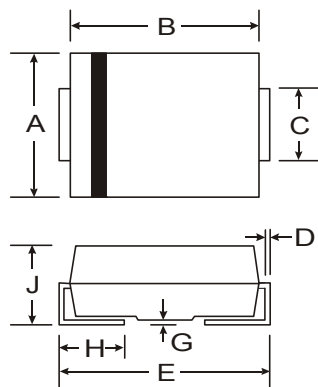
Notes: 5. Valid provided that terminals are kept at ambient temperature.  
 6. Short duration pulse test used to minimize self-heating effect.





## Package Outline Dimensions

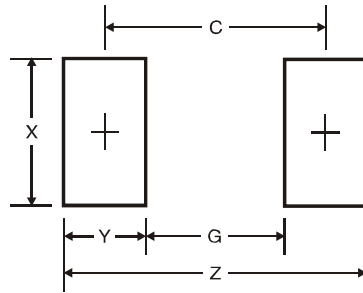
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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		

## Suggested Pad Layout

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



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

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