

Product Summary

V_{RRM} (V)	I_o (A)	$V_F(\text{MAX})$ (V) @ +25°C	$I_R(\text{MAX})$ (μA) @ +25°C
100	2	0.79	10

Description and Applications

The B2100SAF is a 2A 100V single rectifier packaged in the low profile SMAF package. Providing low V_F and excellent reverse leakage stability at high temperatures, this device is ideal for use in general rectification applications such as:

- Boost Diode
- Blocking Diode
- Recirculating Diode

Features and Benefits

- Reduced Low Forward Voltage Drop (V_F); Better Efficiency and Cooler Operation
- Reduced High-Temperature Reverse Leakage; Increased Reliability Against Thermal Runaway Failure in High Temperature Operation
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SMAF
- 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 ③
- Polarity: Cathode Band
- Weight: 0.036 grams (Approximate)



Top View

Ordering Information (Note 4)

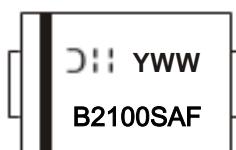
Part Number	Case	Packaging
B2100SAF-13	SMAF	10,000/Tape & Reel

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. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information

SMAF



B2100SAF = Product Type Marking Code
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 7 for 2017)
 WW = Week Code (01 to 53)

Maximum Ratings (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

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

For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	100	V
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current	I_O	2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	60	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	90	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	30	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	—	0.74 0.60	0.79	V	$I_F = 2\text{A}, T_J = +25^\circ\text{C}$ $I_F = 2\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	I_R	—	—	10 2	μA mA	$V_R = 100\text{V}, T_J = +25^\circ\text{C}$ $V_R = 100\text{V}, T_J = +125^\circ\text{C}$
Typical Capacitance	C_T	—	93	—	pF	$V_R = 4.0\text{V}, f = 1\text{MHz}$

Notes: 5. Device mounted on FR-4 substrate, 0.4" x 0.5", 2oz, single-sided, PC boards with 0.2" x 0.25" copper pad.

6. Short duration pulse test used to minimize self-heating effect.

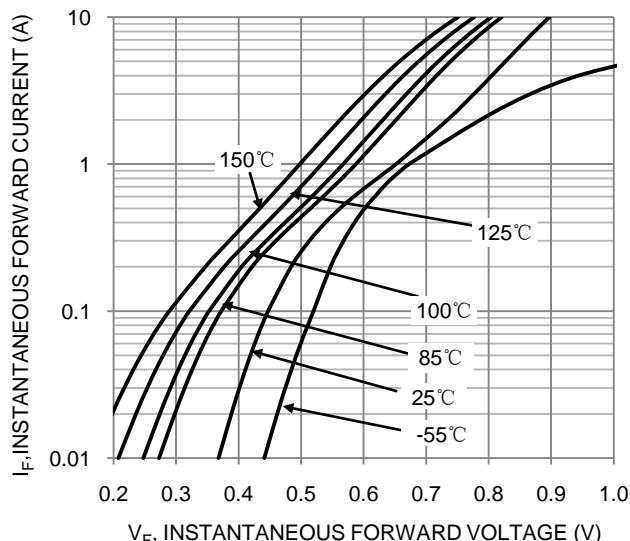


Figure 1. Typical Forward Characteristics

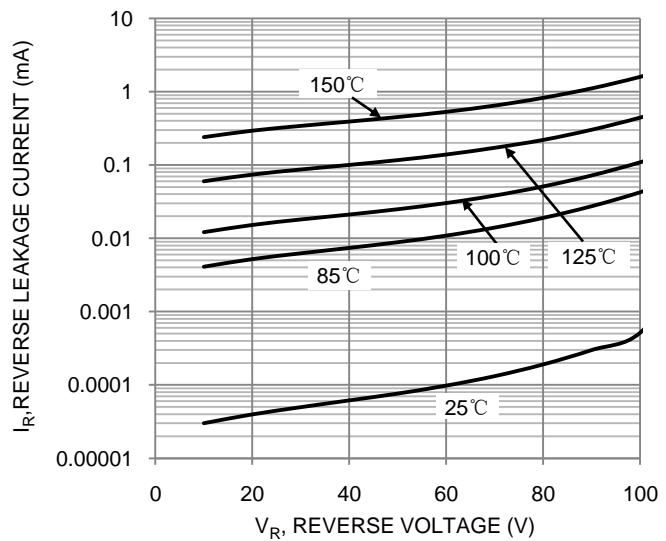


Figure 2. Typical Reverse Characteristics

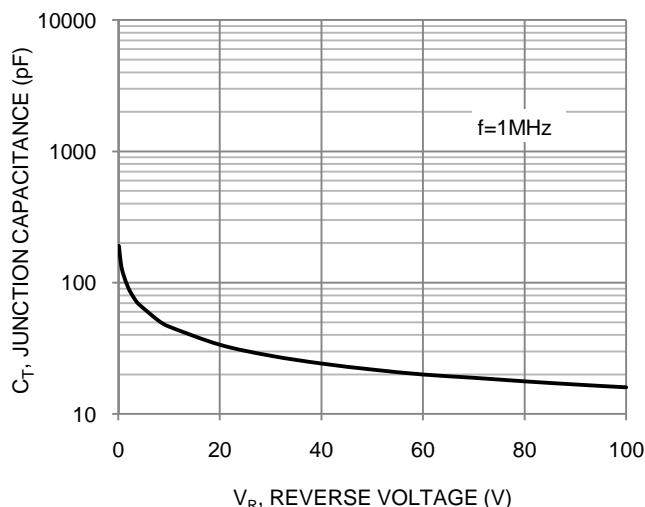


Figure 3. Typical Junction Capacitance

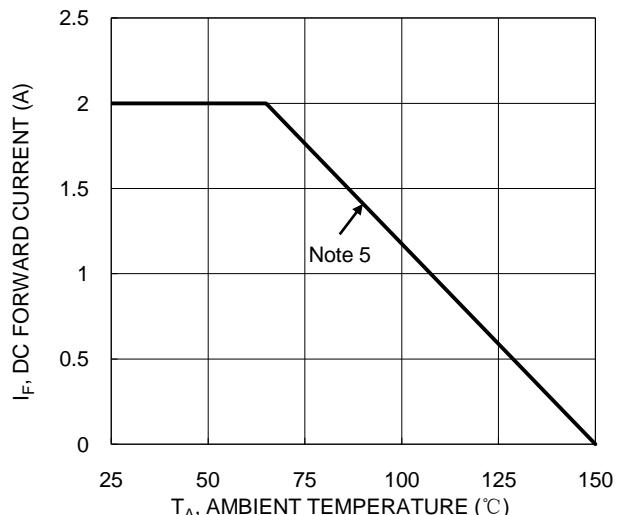


Figure 4, DC Forward Current Derating

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