



B150AF-B160AF

1.0A SCHOTTKY BARRIER RECTIFIER

Product Summary

B150AF/B160AF

V _{RRM} (V)	I ₀ (A)	V _F (MAX) (V) @ +25°C	I _{R(MAX)} (mA) @ +25°С
50	1	0.65	0.10
60	1	0.65	0.20

Description and Applications

The Schottky rectifier 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)

SMAF



Top View

Ordering Information (Note 4)

Part Number	Case	Packaging
B150AF-13	SMAF	10,000/Tape & Reel
B160AF-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 https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



B1XXAF = Product Type Marking Code, ex: B150AF JII = Manufacturers' Code Marking YWW = Date Code Marking Y = Last Digit of Year (ex: 7 for 2017) 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 capacitive load, derate current by 20%.

Characteristic	Symbol	B150AF	B160AF	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	50	60	V
Average Rectified Output Current	Ι _Ο		l	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	3	0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	95	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	R _{θJC}	45	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

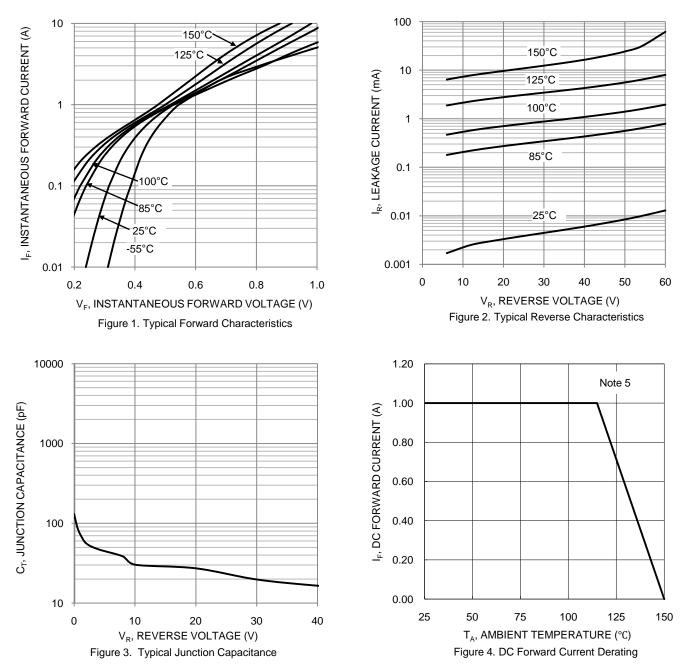
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	VF	_	0.53 0.50	0.65		I _F = 1A, T _J = +25°C I _F = 1A, T _J = +125°C
B150AF Leakage Current (Note 6) B160AF	I _R		0.015 0.02 7.5	0.10 0.20 —	mA	$V_R = 50V, T_J = +25^{\circ}C$ $V_R = 60V, T_J = +25^{\circ}C$ $V_R = 60V, T_J = +125^{\circ}C$
Typical Capacitance	CT		45	_	pF	$V_R = 4.0V, f = 1MHz$

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.



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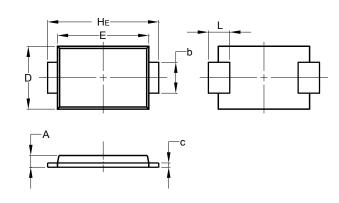


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Package Outline Dimensions

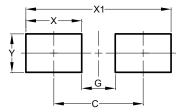
Please see http://www.diodes.com/package-outlines.html for the latest version.



	SMAF				
Dim	Min	Max			
Α	0.90	1.10			
b	1.25	1.65			
С	0.10	0.40			
D	2.25	2.95			
E	3.95	4.60			
HE	4.80	5.60			
L	0.50	1.50			
All Di	All Dimensions in mm				

Suggested Pad Layout

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



Dimensions	Value (in mm)
С	4.00
G	1.50
Х	2.50
X1	6.50
Ŷ	1.70

SMAF

SMAF



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