



SBRT3U60SAF

3A Trench SBR TRENCH SUPER BARRIER RECTIFIER

Product Summary

V _{RRM} (V)	I _O (A)	V _{F(MAX)} (V) @ +25°C	I _{R(MAX)} (mA) @ +25°C
60	3	0.53	0.5

The device is a 3A 60V 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:

Description and Applications

- Boost Diode
- Blocking Diode
- · Recirculating Diode

Features and Benefits

- Patented Trench Super Barrier Rectifier SBR[®] Technology
- Ultra-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)
- Qualified to AEC-Q101 Standards for High Reliability

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 [®]
- Polarity: Cathode Band
- Weight: 0.035 grams (Approximate)



SMAF



Device Symbol

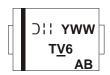
Ordering Information (Note 4)

Part Number	Case	Packaging
SBRT3U60SAF-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



 D^{++} = Manufacturers' Code Marking $T\underline{V}6$ = Product Type Marking Code YWW = Date Code Marking Y = Last Digit of Year (ex: 6 for 2016) WW = Week Code (01 to 53) AB = Foundry and Assembly Code



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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	60	٧
Average Rectified Output Current	lo	3	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	40	А

Thermal Characteristics

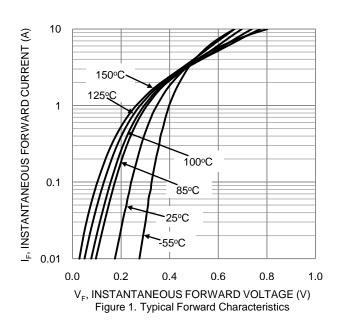
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	95	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	30	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

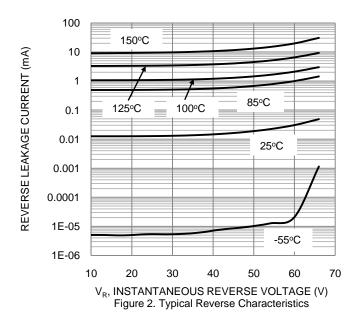
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	VF	1 1 1	0.40 0.45 0.46	 0.53 	V	I _F = 2A, T _J = +25°C I _F = 3A, T _J = +25°C I _F = 3A, T _J = +125°C
Leakage Current (Note 6)	I _R	1 1		0.5 30	mA	V _R = 60V, T _J = +25°C V _R = 60V, T _J = +125°C

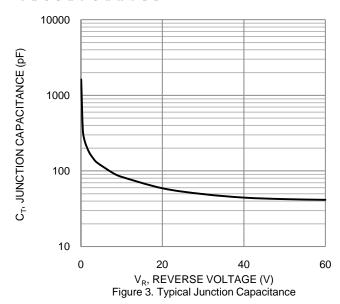
Notes:

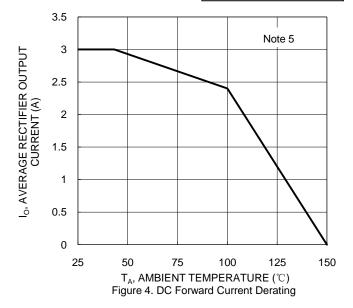
- 5. Device mounted on FR-4 substrate, 0.4"*0.5", 2oz, single-sided, PC boards with 0.2"*0.25" copper pad.
- 6. Short duration pulse test used to minimize self-heating effect.

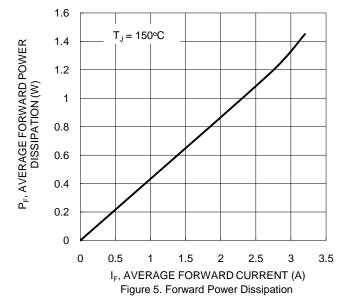










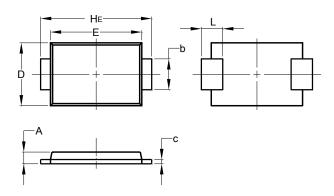




Package Outline Dimensions

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

SMAF

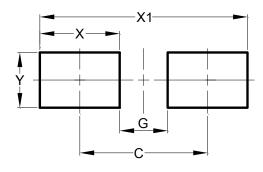


SMAF				
Dim	Min	Max		
Α	0.90	1.10		
b	1.25	1.65		
C	0.10	0.40		
D	2.25	2.95		
Е	3.95	4.60		
HE	4.80	5.60		
L	0.50	1.50		
All Dimensions in mm				

Suggested Pad Layout

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

SMAF



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



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