THE SBR3U60SA IS OBSOLETE.
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Green

SBR3U60SA

3A SBR
SUPER BARRIER RECTIFIER
SMA

Product Summary

V_{RRM} (V)	I_O (A)	$V_{F(MAX)}$ (V) @ +25°C	$I_{R(MAX)}$ (mA) @ +25°C
60	3	0.65	100

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)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative.**
  https://www.diodes.com/quality/product-definitions/

Description and Applications

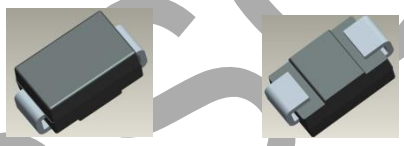
The SBR3U60SA is a 3A 60V single rectifier packaged in the low profile SMA package. Providing low VF and excellent reverse leakage stability at high temperatures, this device is ideal for use in general rectification applications such as:

- Boost diodes
- Blocking diodes
- Recirculating diodes

Mechanical Data

- Package: SMA
- Package 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
- Weight: 0.064 grams (Approximate)

SMA



Top View Bottom View

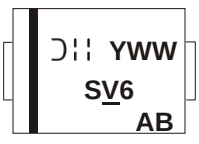
Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
SBR3U60SA-13	SMA	5,000	Tape & Reel

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ 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

SMA



SV6 = Product Type Marking Code
YWW = Date Code Marking
Y = Last Digit of Year (ex: 4 for 2024)
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	V
Average Rectified Output Current	I_O	3	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)	$R_{\theta JA}$	81	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	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	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	— —	0.58 0.55	0.65 0.61	V	I_F = 3A, T_J = +25°C I_F = 3A, T_J = +125°C
Leakage Current (Note 6)	I_R	— —	10 —	100 15	μA mA	V_R = 60V, T_J = +25°C V_R = 60V, T_J = +125°C

Notes: 5. Device mounted on FR-4 substate, 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.

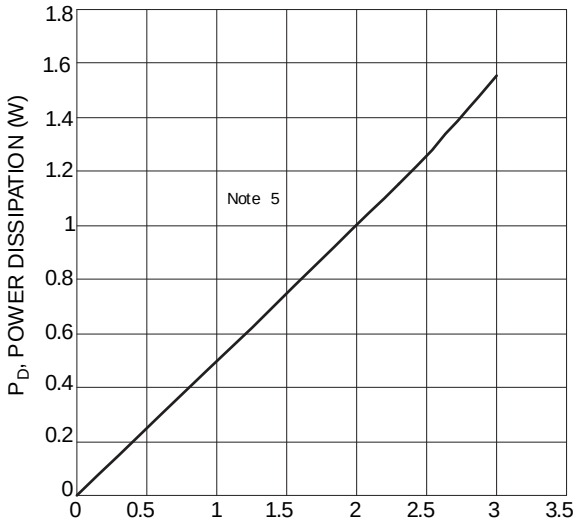


Figure 1 Forward Power Dissipation

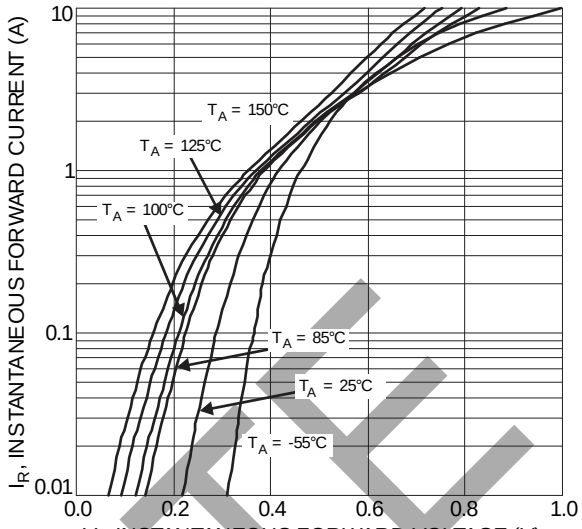


Figure 2 Typical Forward Characteristics

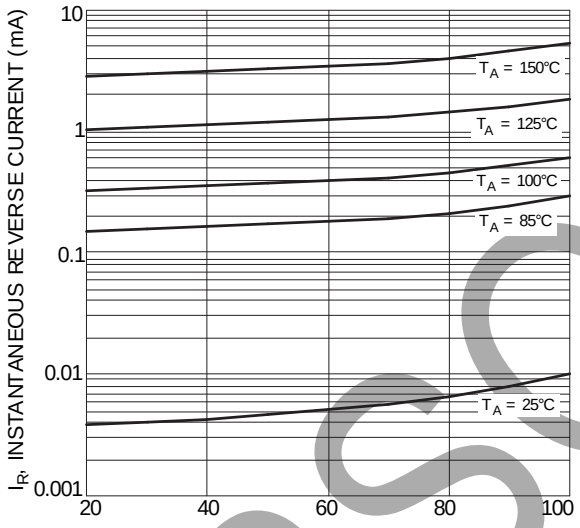


Figure 3 Typical Reverse Characteristics

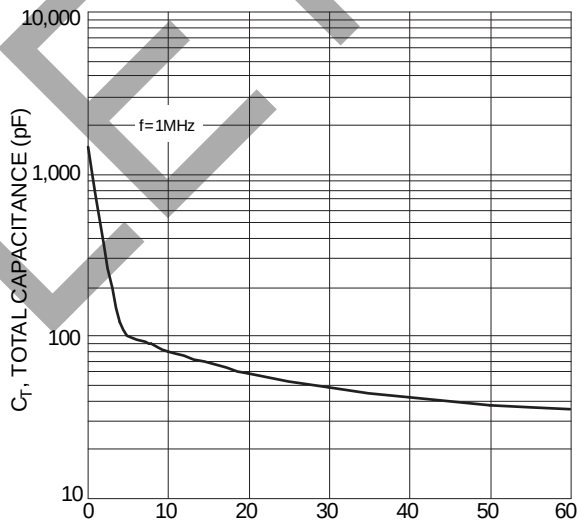


Figure 4 Total Capacitance vs. Reverse Voltage

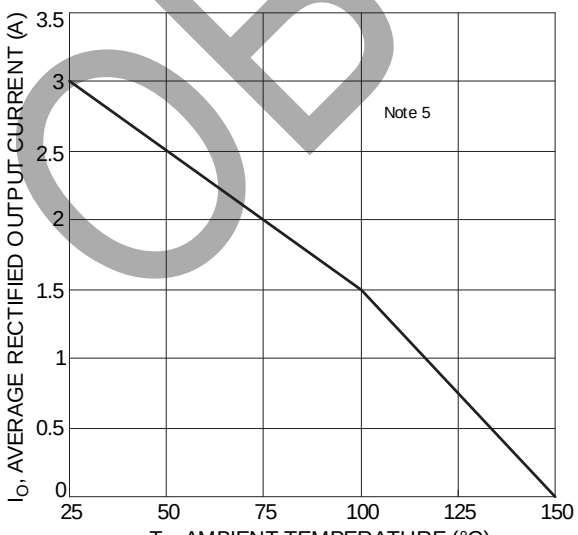
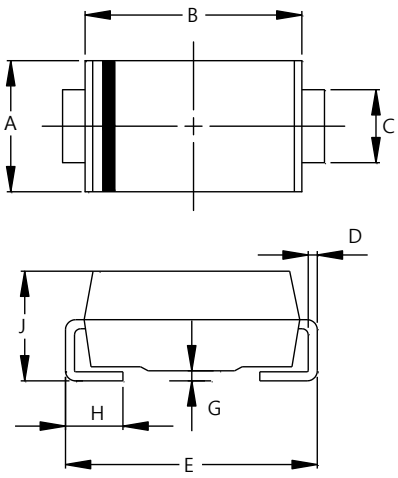


Figure 5 Forward Current Derating Curve

Package Outline Dimensions

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

SMA

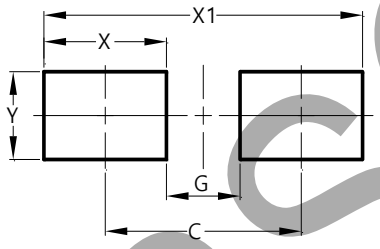


SMA		
Dim	**Min**	**Max**
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	1.96	2.40
All Dimensions in mm		

Suggested Pad Layout

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

SMA



Dimensions	Value (in mm)
C	4.00
G	1.50
X	2.50
X1	6.50
Y	1.70

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