NEW PRODUCT

SBR1U30SV

1.0A SBR®
SUPER BARRIER RECTIFIER

Features

- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150ºC Operating Junction Temperature
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.003 grams (approximate)

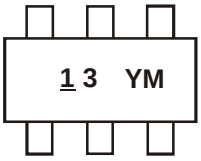
Top View Bottom View

Ordering Information (Note 3)

Part Number	Case	Packaging
SBR1U30SV-7	SOT-563	3000/Tape & Reel

Notes: 1. No purposefully added lead.
2. Diodes Inc.’s “Green” policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



1 3 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: X = 2010)
M = Month ex: 9 = September

Date Code Key

Year	2010	2011	2012	2013	2014	2015	2016
Code	X	Y	Z	A	B	C	D

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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Maximum Ratings @T_A = 25℃ 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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	30	V
Average Rectified Output Current (See Figure 1)	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	2.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient (Note 4)	$R_{\theta JA}$	130	ºC/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	ºC

Electrical Characteristics @T_A = 25℃ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	-	0.37 -	0.43 0.51	V	I_F = 0.5A, T_J = 25ºC I_F = 1.0A, T_J = 25ºC
		-	0.39	0.43		I_F = 1.0A, T_J = 125ºC
Leakage Current (Note 4)	I_R	-	16	150	µA	V_R = 30V, T_J = 25ºC
		-	4	-	mA	V_R = 30V, T_J = 125ºC

Notes: 4. Device mounted on FR-4 substrate PC board, with minimum recommended pad layout
5. Short duration pulse test used to minimize self-heating effect.

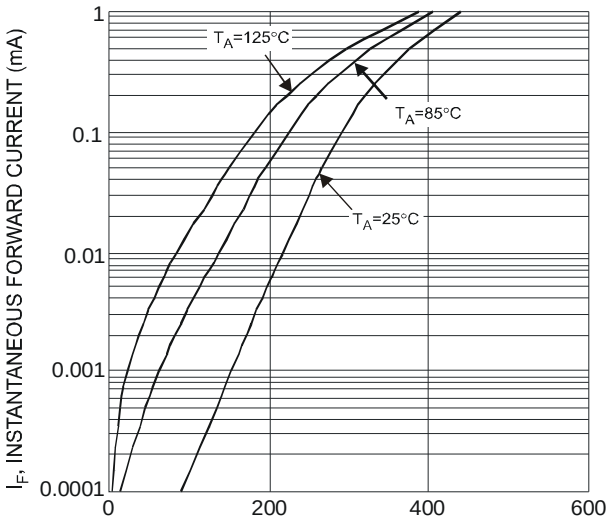

Fig.1 Typical Forward Characteristics

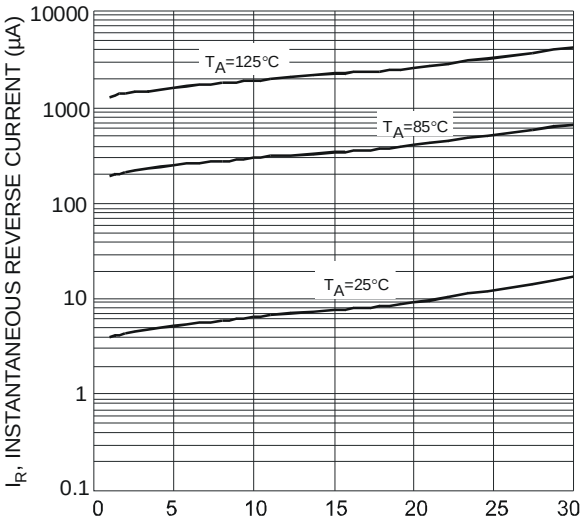

Fig. 2 Typical Reverse Characteristics

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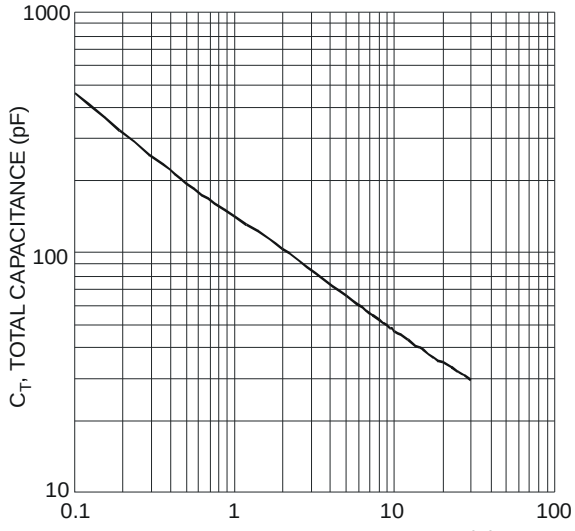


Fig. 3 Total Capacitance vs. Reverse Voltage

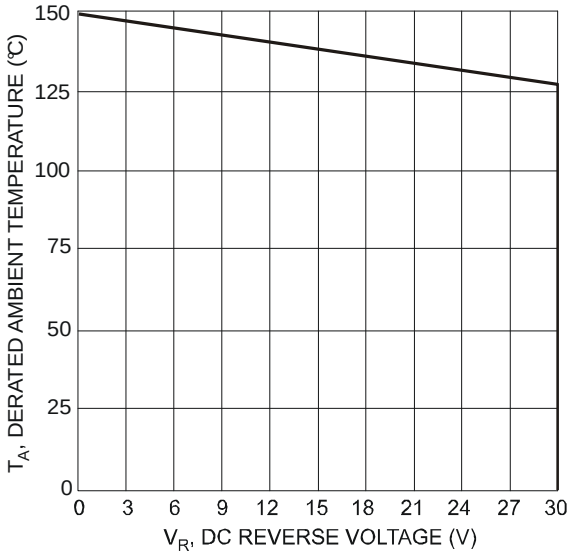
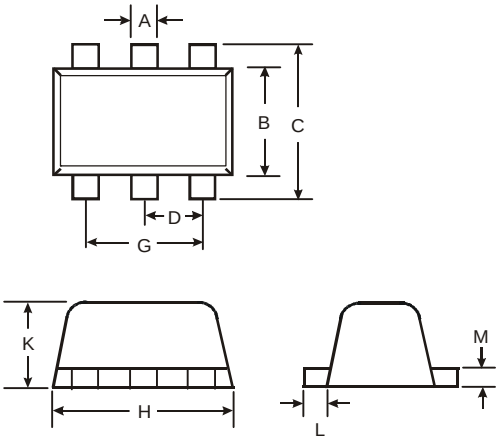


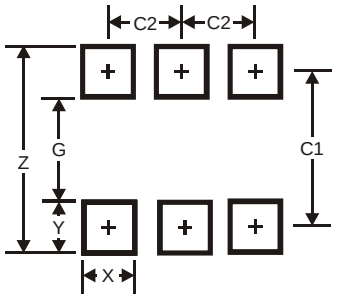
Fig. 4 Operating Temperature Derating

Package Outline Dimensions



SOT-563			
Dim	**Min**	**Max**	**Typ**
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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