

## Features

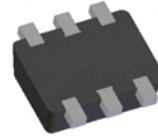
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

## Mechanical Data

- Case: SOT563
- 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



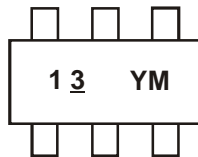
Bottom View

## Ordering Information (Note 3)

Part Number	Case	Packaging
SBR130SV-7	SOT563	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>.
  3. For packaging details, go to our website at <http://www.diodes.com>.

## 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

**Maximum Ratings** @T<sub>A</sub> = 25°C 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	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current (See Figure 1)	I <sub>O</sub>	1.0	A
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	2.5	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient (Note 4)	R <sub>θJA</sub>	130	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
Forward Voltage Drop	V <sub>F</sub>	-	0.39	0.46	V	I <sub>F</sub> = 0.5A, T <sub>J</sub> = 25°C	
			-	-		0.56	I <sub>F</sub> = 1.0A, T <sub>J</sub> = 25°C
			0.40	0.45		I <sub>F</sub> = 1.0A, T <sub>J</sub> = 125°C	
Leakage Current (Note 4)	I <sub>R</sub>	-	8	100	μA mA	V <sub>R</sub> = 30V, T <sub>J</sub> = 25°C	
			-	2.3		-	V <sub>R</sub> = 30V, T <sub>J</sub> = 125°C

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.

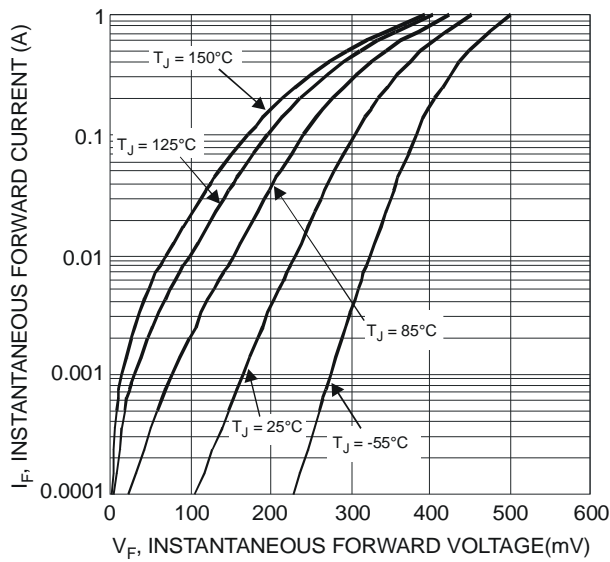


Fig. 1 Typical Forward Characteristics

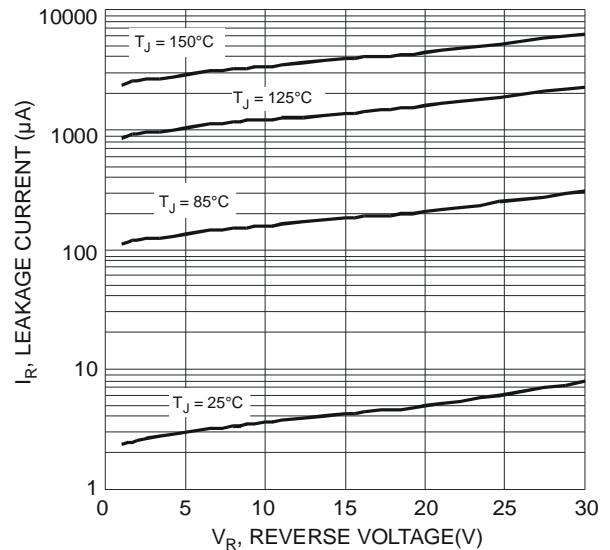


Fig. 2 Typical Reverse Characteristics

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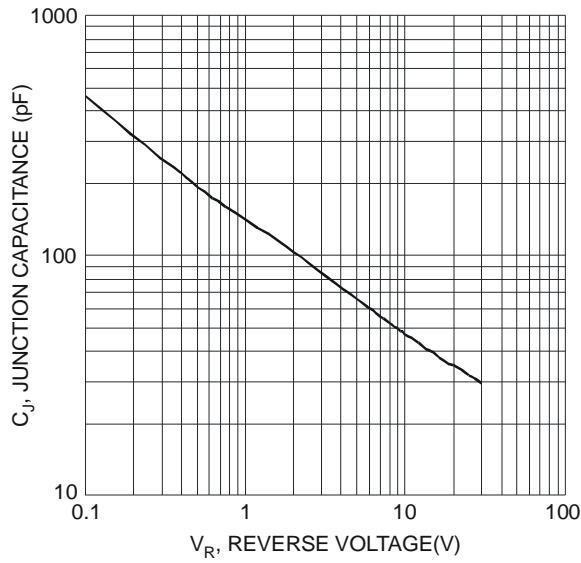


Fig. 3 Typical Junction Capacitance

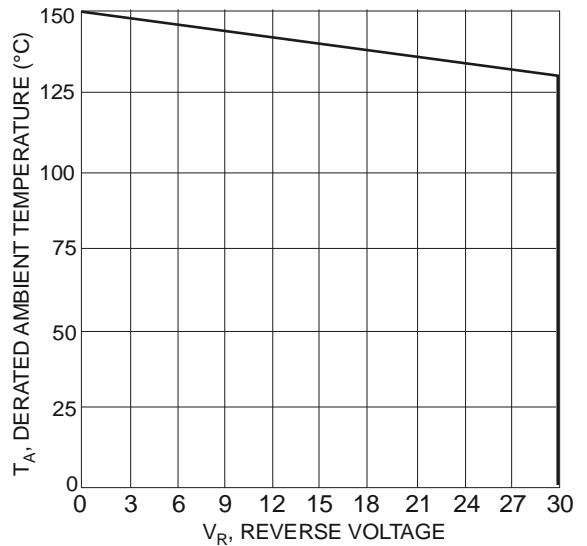
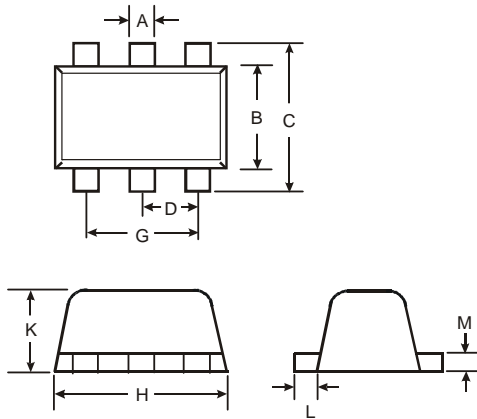


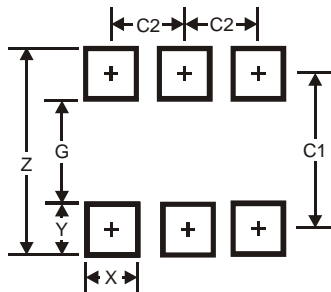
Fig. 4 Operating Temperature Derating

**Package Outline Dimensions**



SOT563			
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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