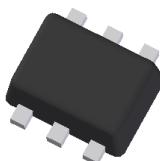


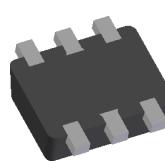
## Features

- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

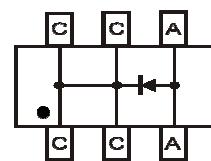
SOT563



Top View



Bottom View



Top View Internal Schematic

Dot denotes cathode pin 1

## 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 Copper Leadframe.
- Solderable per MIL-STD-202, Method 208 (e3)
- Terminal Connections: See Diagram
- Weight: 0.003 grams (Approximate)

## Ordering Information (Note 4)

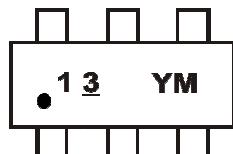
Part Number	Case	Packaging
SBR130SV-7	SOT563	3,000/Tape & Reel

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See [http://www.diodes.com/quality/lead\\_free.html](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

SOT563



1 3 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: C = 2015)  
 M = Month ex: 9 = September  
 Dot denotes cathode pin 1

Date Code Key

Year	2013	2014	2015	2016	2017	2018	2019					
Code	A	B	C	D	E	F	G					
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** (@ $T_A = +25^\circ\text{C}$ , 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	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	30	V
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current	$I_O$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	2.5	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	150	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	—	0.31	0.38	V	$I_F = 0.1\text{A}, T_J = +25^\circ\text{C}$
		—	0.39	0.46		$I_F = 0.5\text{A}, T_J = +25^\circ\text{C}$
		—	—	0.56		$I_F = 1.0\text{A}, T_J = +25^\circ\text{C}$
		—	0.40	0.45		$I_F = 1.0\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	—	4	25	$\mu\text{A}$	$V_R = 5\text{V}, T_J = +25^\circ\text{C}$
		—	5	30		$V_R = 12\text{V}, T_J = +25^\circ\text{C}$
		—	13	80		$V_R = 30\text{V}, T_J = +25^\circ\text{C}$
		—	140	1,400		$V_R = 5\text{V}, T_J = +85^\circ\text{C}$
		—	175	1,800		$V_R = 12\text{V}, T_J = +85^\circ\text{C}$
		—	2,300	—		$V_R = 30\text{V}, T_J = +125^\circ\text{C}$

 Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.

6. Short duration pulse test used to minimize self-heating effect.

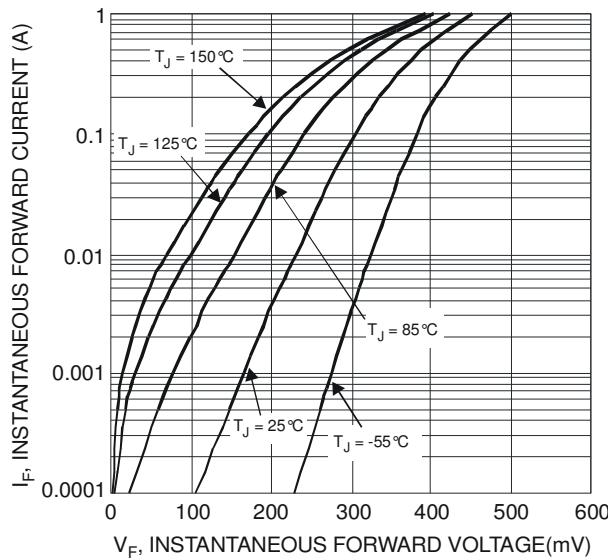


Figure 1 Typical Forward Characteristics

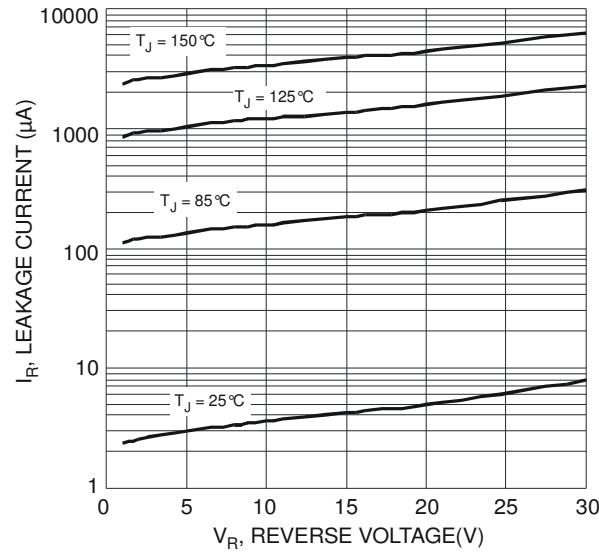
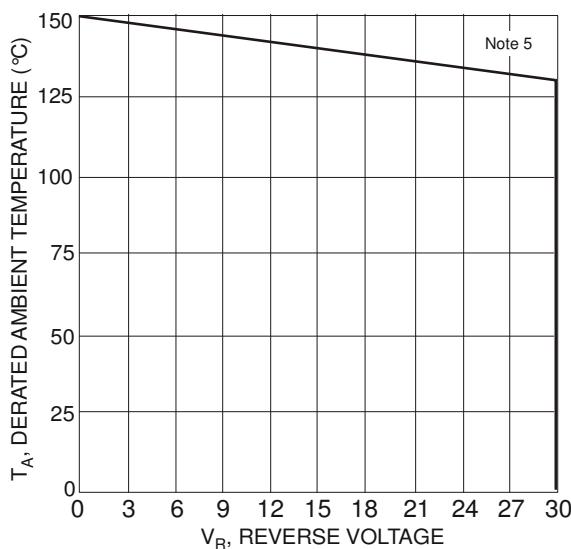
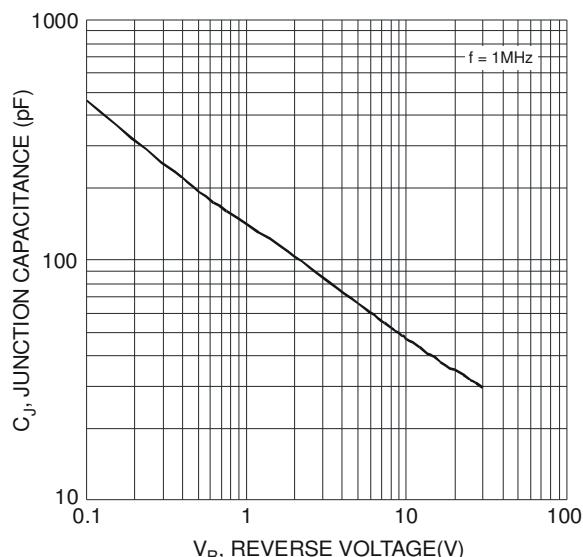
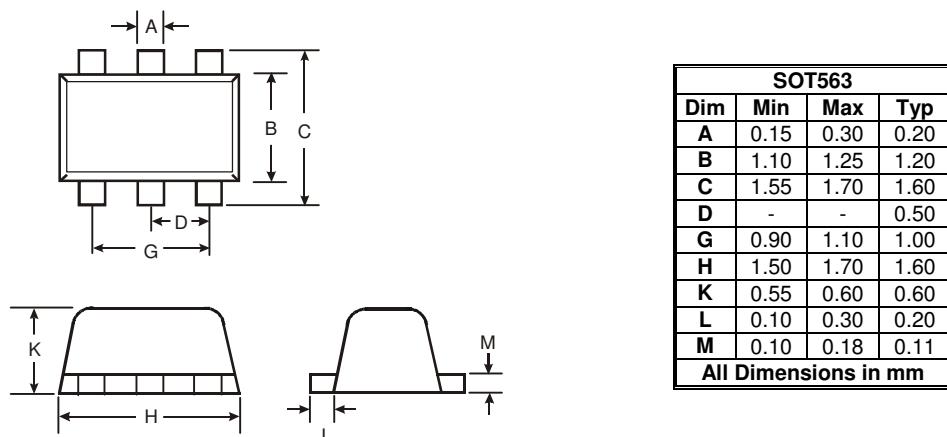


Figure 2 Typical Reverse Characteristics



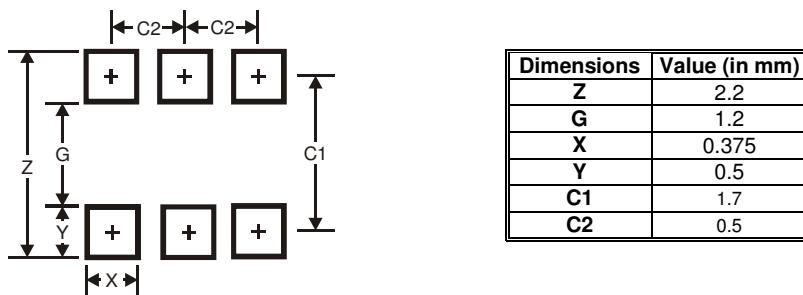
## Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



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