
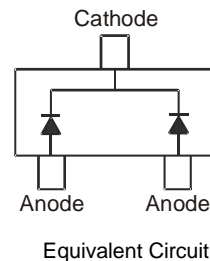


Features

- Low Forward Voltage
- Ultra Low Reverse Leakage
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: SOT323
- Case Material: Molded Plastic, "Green" Molding Compound.
UL Flammability Classification Rating 94V-0
- Patented Super Barrier Rectifier SBR[®] Technology
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe.
Solderable per MIL-STD-202, Method 208 
- Terminal Connections: See Diagram
- Weight: 0.008 grams (Approximate)

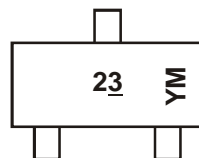


Ordering Information (Note 4)

Part Number	Case	Packaging
SBR0330CW-7	SOT323	3,000/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



23 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: C = 2015)
 M = Month (ex: 9 = September)

Date Code Key

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Code	C	D	E	F	G	H	I	J	K	L

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°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}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
DC Forward Current	I _F (Per diode)	0.3	A
Average Rectified Output Current	I _O		
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	1	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R _{θJA}	261	°C/W
Thermal Resistance Junction to Ambient (Note 5)			
Typical Thermal Resistance	R _{θJA}	445	°C/W
Thermal Resistance Junction to Ambient (Note 6)			
Operating and Storage Temperature Range	T _J , T _{STG}	-65 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	—	—	240	mV	I _F = 0.1mA, T _J = +25°C
		—	—	300		I _F = 1mA, T _J = +25°C
		—	—	375		I _F = 10mA, T _J = +25°C
		—	—	430		I _F = 30mA, T _J = +25°C
		—	—	500		I _F = 100mA, T _J = +25°C
		—	—	580		I _F = 200mA, T _J = +25°C
		—	530	—		I _F = 300mA, T _J = +25°C
Leakage Current (Note 7)	I _R	—	—	5	μA	V _R = 30V, T _J = +25°C
		—	0.63	3		V _R = 25V, T _J = +25°C
		—	—	1		V _R = 10V, T _J = +25°C
		—	0.35	0.8		V _R = 5V, T _J = +25°C
		—	7	20		V _R = 10V, T _J = +70°C
		—	18	50		V _R = 10V, T _J = +85°C
		—	—	—		V _R = 10V, T _J = +85°C

Notes: 5. Device mounted on Polyimide substrate, 10cm x 10cm, 2oz, copper, PC boards.
 6. Device mounted on FR-4 PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.
 7. Short duration pulse test used to minimize self-heating effect.

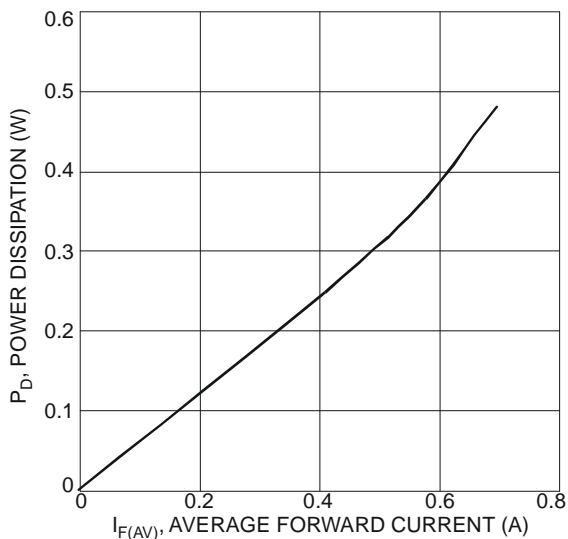


Figure 1. Forward Power Dissipation

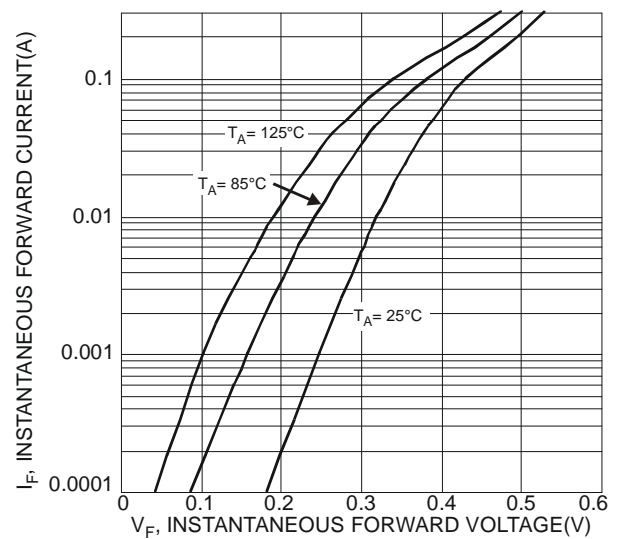
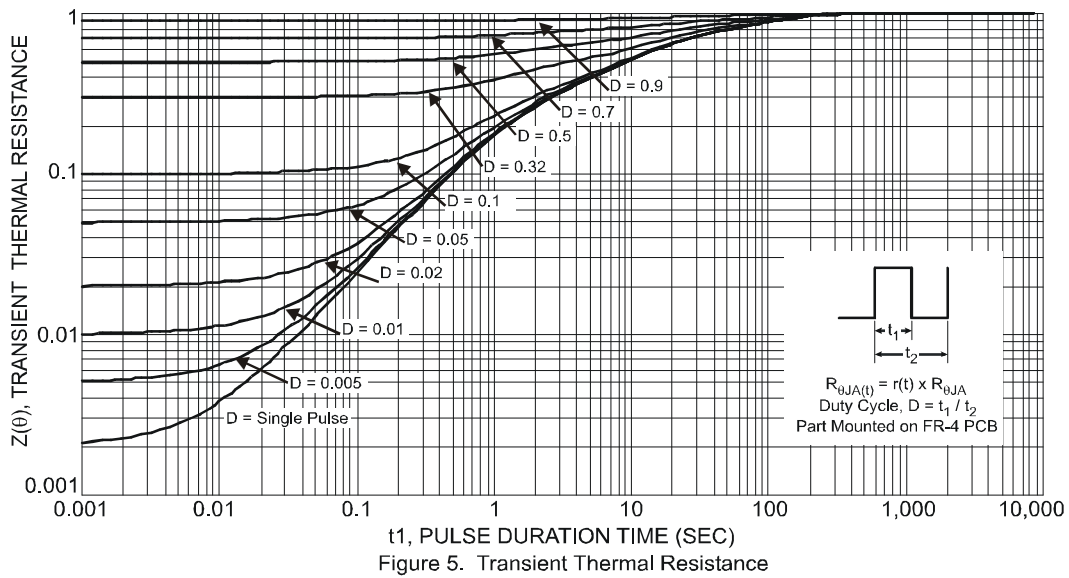
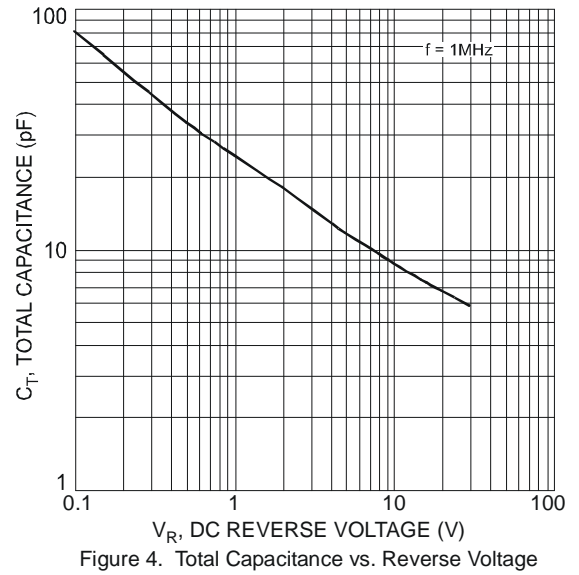
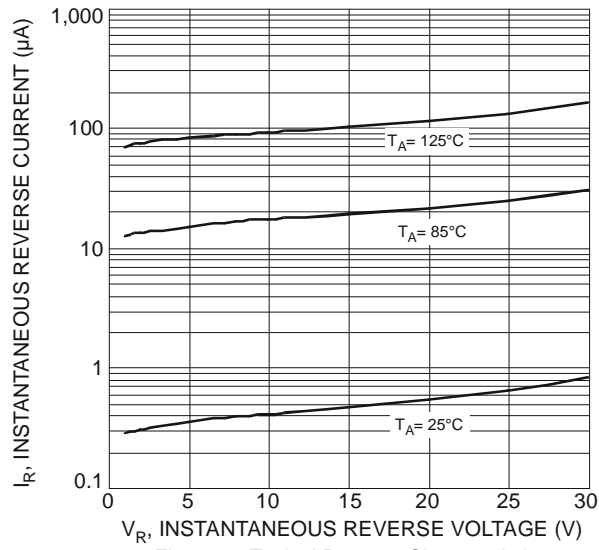
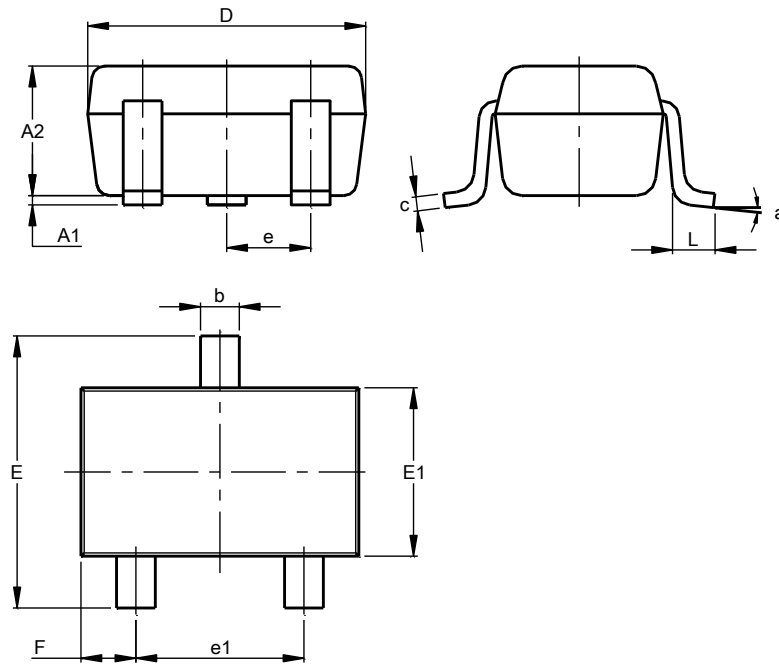


Figure 2. Typical Forward Characteristics



Package Outline Dimensions

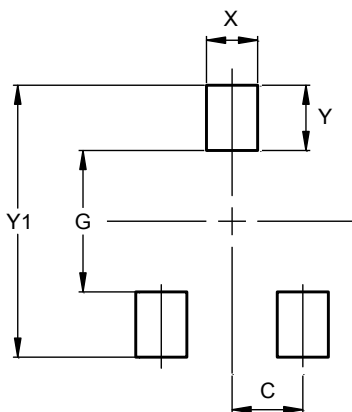
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOT323			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	8°		
All Dimensions in mm			

Suggested Pad Layout

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



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500

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