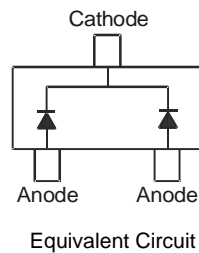


Features

- Low Forward Voltage
- Ultra low reverse leakage
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free, RoHS Compliant (Note 1)**
- **Halogen and Antimony Free "Green" Device (Note 2)**

Mechanical Data

- Case: SOT323
- Case 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 Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.008 grams (approximate)

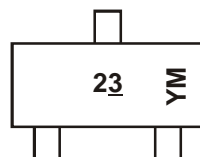


Ordering Information (Note 3)

Part Number	Case	Packaging
SBR0330CW-7	SOT323	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



23 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Y = 2011)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017
Code	Y	Z	A	B	C	D	E

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}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current	I_O	0.3	A
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	$R_{\theta JA}$	261	$^\circ\text{C/W}$
Thermal Resistance Junction to Ambient (Note 4)			
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	-	-	240	mV	$I_F = 0.1\text{mA}, T_J = 25^\circ\text{C}$
		-	-	300		$I_F = 1\text{mA}, T_J = 25^\circ\text{C}$
		-	-	375		$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$
		-	-	430		$I_F = 30\text{mA}, T_J = 25^\circ\text{C}$
		-	-	500		$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$
		-	-	580		$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$
		-	530	-		$I_F = 300\text{mA}, T_J = 25^\circ\text{C}$
Leakage Current (Note 5)	I_R	-	-	5	μA	$V_R = 30\text{V}, T_J = 25^\circ\text{C}$
		-	0.63	3		$V_R = 25\text{V}, T_J = 25^\circ\text{C}$
		-	-	1		$V_R = 10\text{V}, T_J = 25^\circ\text{C}$
		-	0.35	0.8		$V_R = 5\text{V}, T_J = 25^\circ\text{C}$
		-	7	20		$V_R = 10\text{V}, T_J = 70^\circ\text{C}$
		-	18	50		$V_R = 10\text{V}, T_J = 85^\circ\text{C}$

Notes: 4. Device mounted on Polyimide substrate, 10cm*10cm, 2oz, copper, PC boards.
5. Short duration pulse test used to minimize self-heating effect.

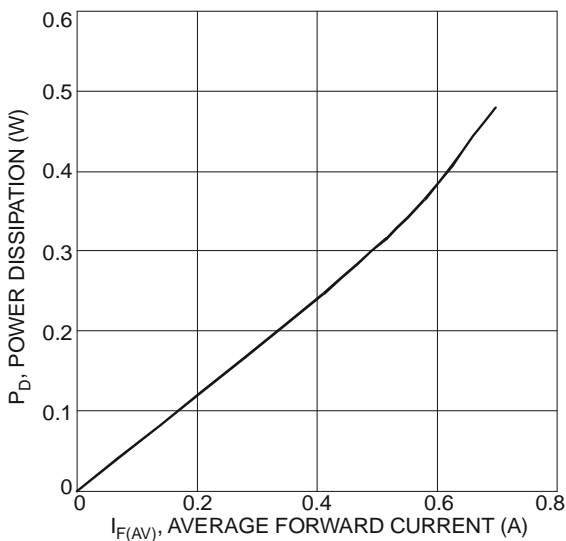


Fig. 1 Forward Power Dissipation

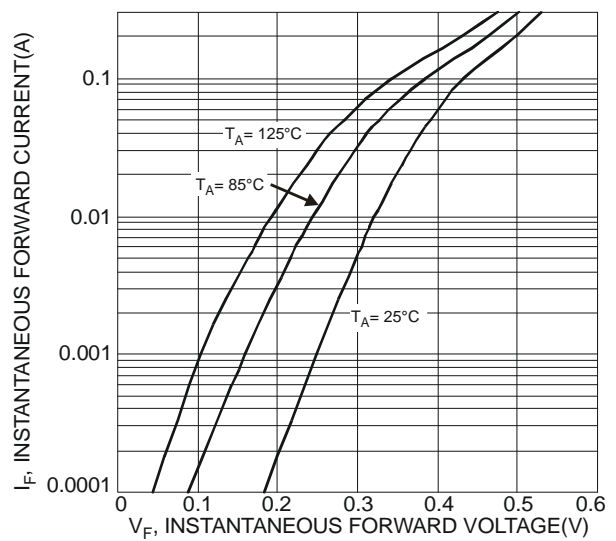


Fig. 2 Typical Forward Characteristics

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SBR0330CW

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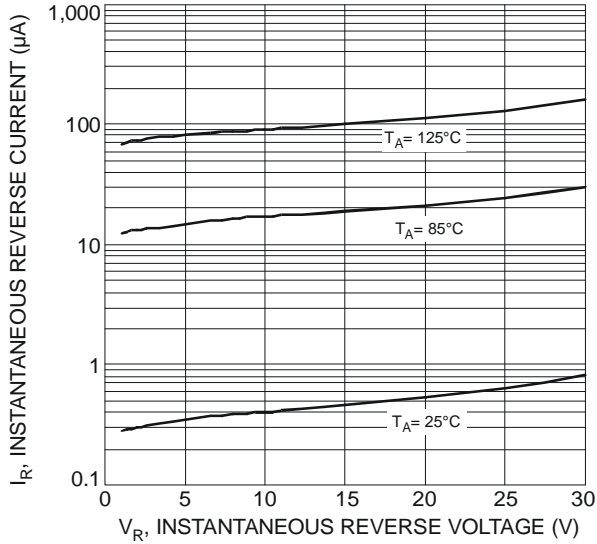


Fig. 3 Typical Reverse Characteristics

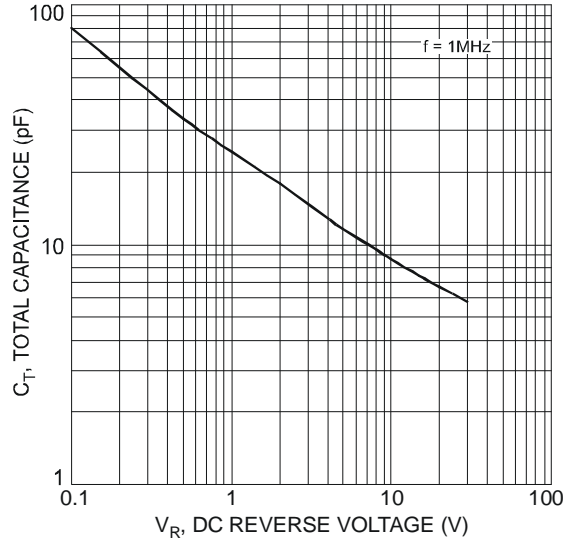


Fig. 4 Total Capacitance vs. Reverse Voltage

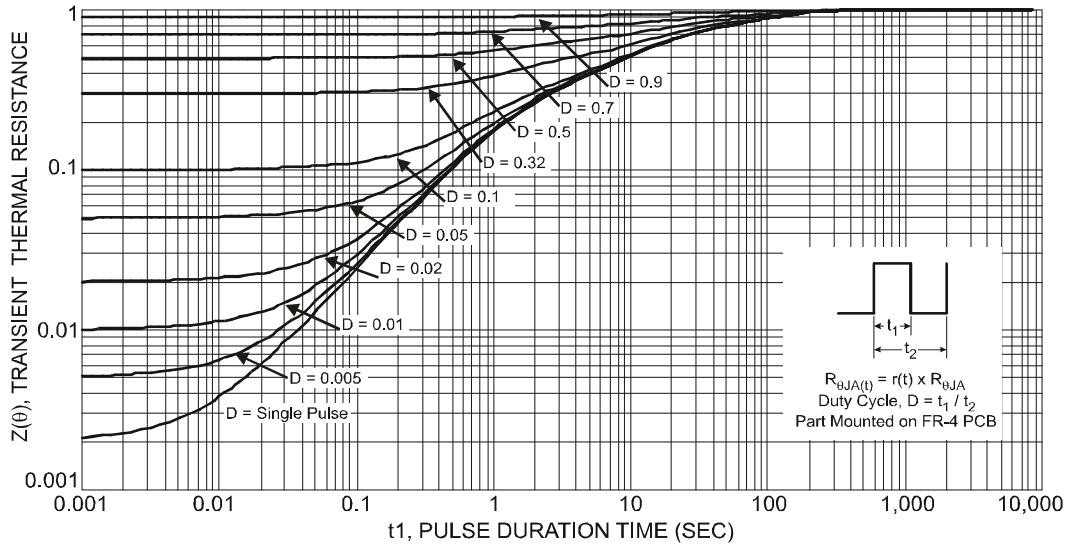
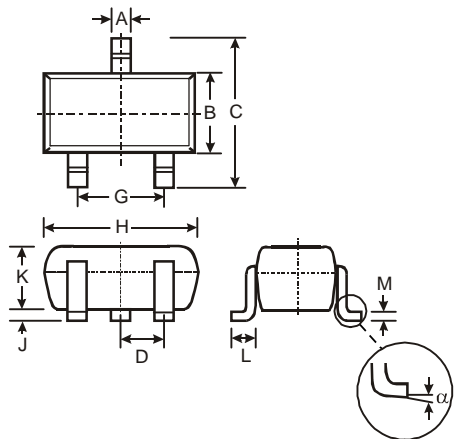


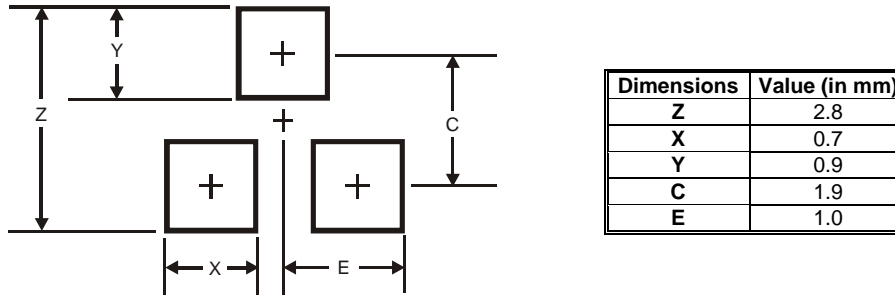
Fig. 5 Transient Thermal Resistance

Package Outline Dimensions



SOT323			
Dim	Min	Max	Typ
A	0.25	0.40	0.30
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	-	-	0.65
G	1.20	1.40	1.30
H	1.80	2.20	2.15
J	0.0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



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