

## Features

- Planar Die Construction
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- "Green" Device (Notes 2 and 6)**

## Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish – Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)



Top View

## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	R <sub>θJA</sub>	833	°C/W

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

Type Number	Marking Code (Note 4)	Zener Voltage Range (Note 3)				Maximum Zener Impedance (Note 5)			Maximum Reverse Current (Note 5)	
		V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	@ V <sub>R</sub>
		Nom (V)	Min (V)	Max (V)	mA	Ω		mA	uA	V
BZT52C51S	WW	51	48.0	54.0	5	100	750	1.0	0.1	38

- Notes:
- No purposefully added lead. Halogen and Antimony Free.
  - Diodes Inc's "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php)
  - Short duration pulse test used to minimize self-heating effect.
  - When provided, otherwise, parts are provided with date code only, and type number identification appears on reel only.
  - f = 1kHz.
  - Product manufactured with Green Molding Compound and does not contain Halogens or Sb<sub>2</sub>O<sub>3</sub> Fire Retardants.

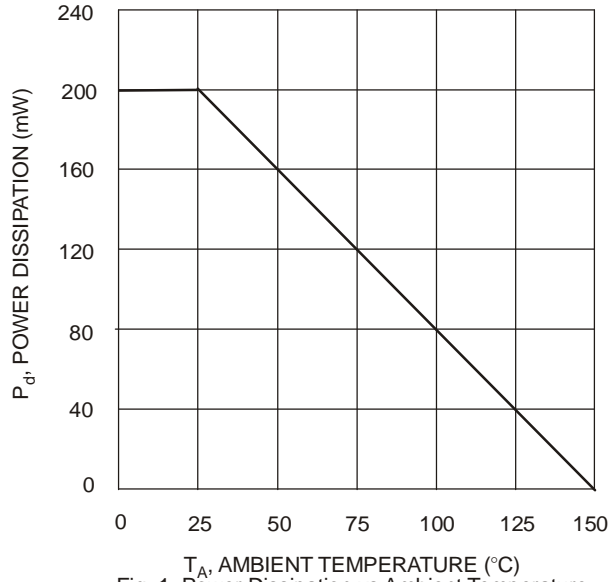


Fig. 1 Power Dissipation vs Ambient Temperature

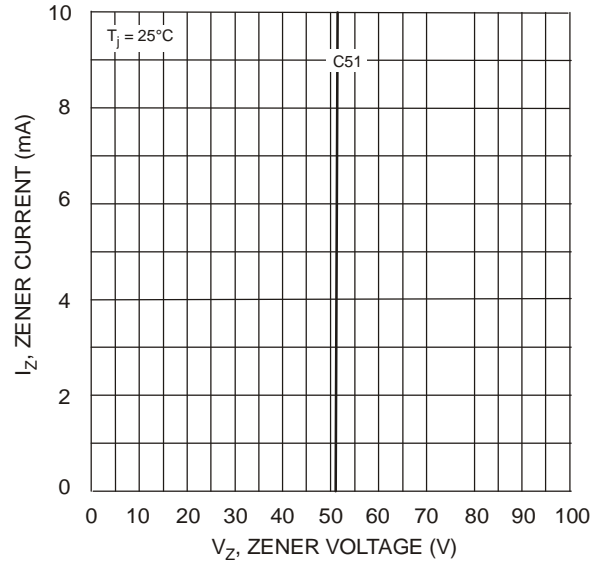


Fig. 2 Zener Breakdown Characteristics

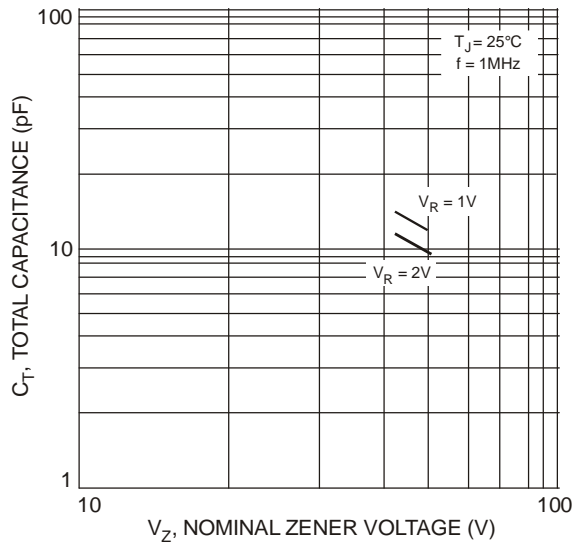


Fig. 3 Total Capacitance vs Nominal Zener Voltage

## Ordering Information (Note 7)

Part Number	Case	Packaging
BZT52C51S-7	SOD-323	3,000/Tape & Reel
BZT52C51S-13	SOD-323	10,000/Tape & Reel

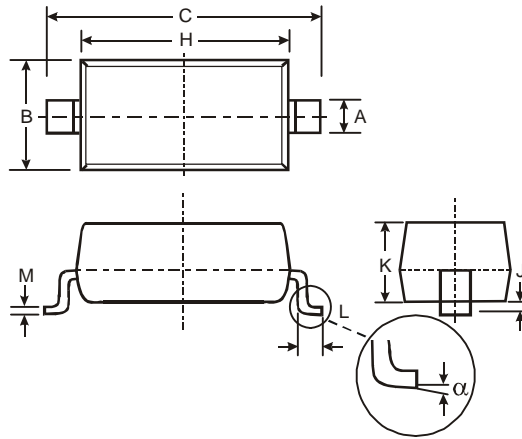
Notes: 7. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



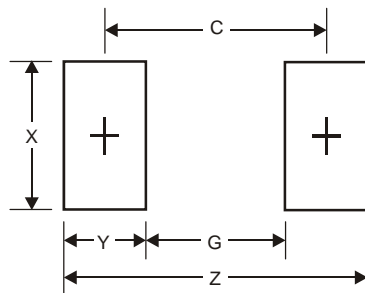
WW = Product Type Marking Code

## Package Outline Dimensions



SOD-323		
Dim	Min	Max
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
$\alpha$	0°	8°
All Dimensions in mm		

## Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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