

## 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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	$P_D$	200	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{\theta JA}$	833	$^\circ\text{C/W}$

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Type Number	Marking Code (Note 4)	Zener Voltage Range (Note 3)				Maximum Zener Impedance (Note 5)			Maximum Reverse Current (Note 5)	
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R$	@ $V_R$
		Nom (V)	Min (V)	Max (V)	mA	$\Omega$	mA	$\mu\text{A}$	V	
BZT52C51S	WW	51	48.0	54.0	5	100	750	1.0	0.1	38

- Notes:
1. No purposefully added lead. Halogen and Antimony Free.
  2. 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)
  3. Short duration pulse test used to minimize self-heating effect.
  4. When provided, otherwise, parts are provided with date code only, and type number identification appears on reel only.
  5.  $f = 1\text{kHz}$ .
  6. Product manufactured with Green Molding Compound and does not contain Halogens or  $\text{Sb}_2\text{O}_3$  Fire Retardants.

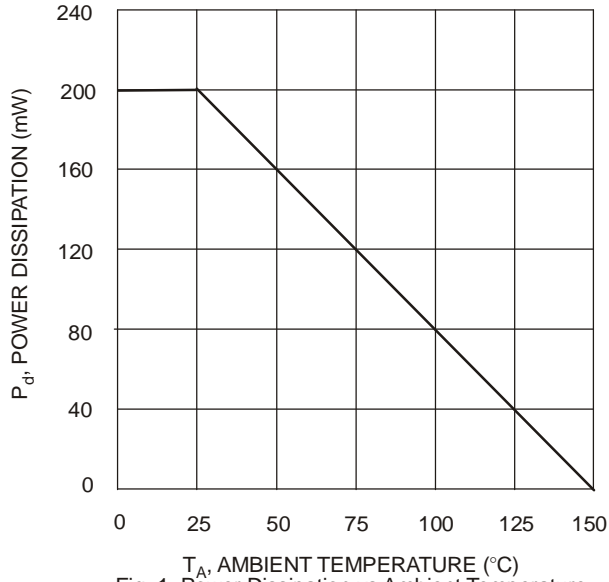


Fig. 1 Power Dissipation vs Ambient Temperature

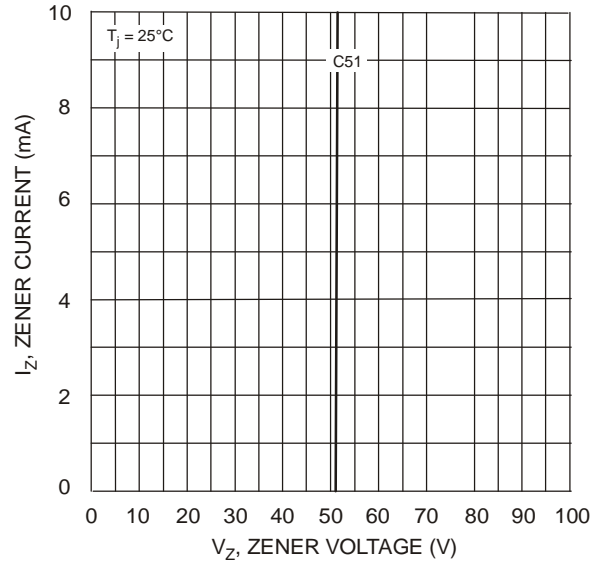


Fig. 2 Zener Breakdown Characteristics

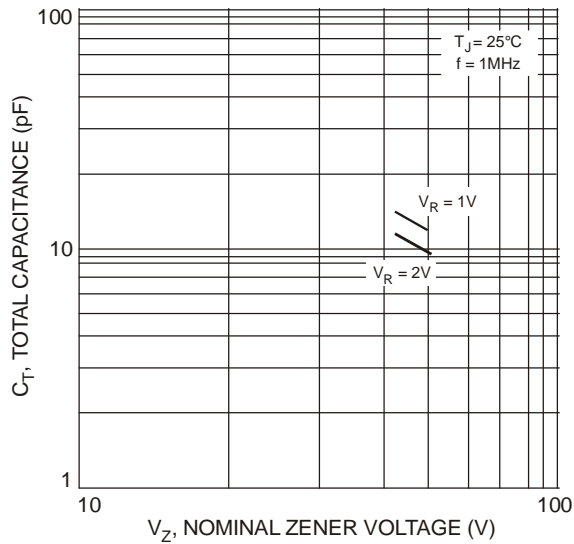


Fig. 3 Total Capacitance vs Nominal Zener Voltage

**Ordering Information** (Note 7)

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

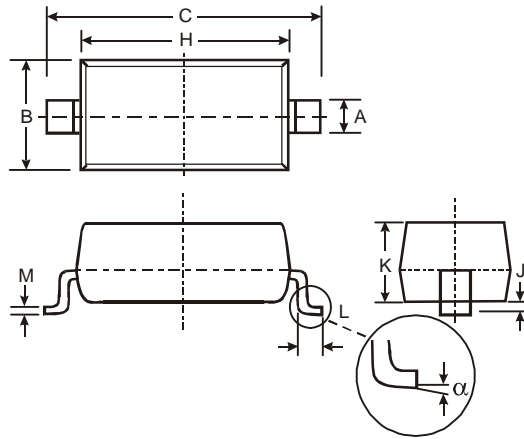
Notes: 7. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



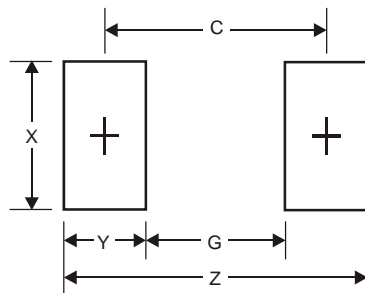
WW = Product Type Marking Code

**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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