

NEW PRODUCT

### Features

- 500mW Power Dissipation on FR-4 PCB
- Very Tight Tolerance on  $V_Z$
- Low Reverse Leakage Current
- Ideally Suited for Automated Assembly Processes
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 2)**
- **"Green" Device (Note 3)**

### Mechanical Data

- Case: SOD-323F
- Case Material: Molded Plastic, "Green Molding Compound". UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Copper Alloy leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.01 grams (approximate)



Top View

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

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	$V_F$	0.95	V

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	$P_D$	500	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	200	$^\circ\text{C/W}$
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

Type Number	Marking Code	Zener Voltage Range (Notes 4, 5)			Maximum Zener Impedance (Note 6)			Maximum Reverse Current (Note 7)	
		$V_Z @ I_{ZT}$		$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R$	@ $V_R$
		Min (V)	Max (V)	mA	$\Omega$		mA	$\mu\text{A}$	V
UDZ5V1BF	GM	4.98	5.20	5	80	500	0.5	2	1.5

- Notes:
1. Device mounted on FR-4 PCB with 10mm x 10mm pad, board size 35mm \* 25mm.
  2. No purposefully added lead. Halogen and Antimony Free.
  3. 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).
  4. The Zener voltage is measured 40ms after power is supplied.
  5. For inquiries on alternate nominal zener voltages, please contact your Diodes Inc. sales representative for availability and minimum order details.
  6.  $f = 1\text{kHz}$ .
  7. Short duration pulse test used to minimize self-heating effect.

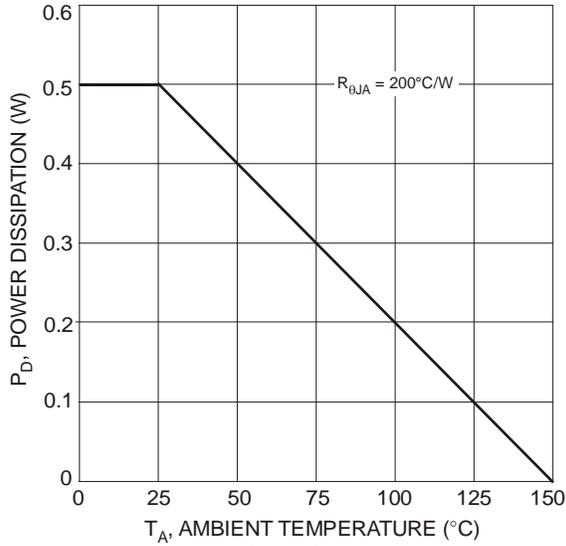


Fig. 1 Power Derating Curve

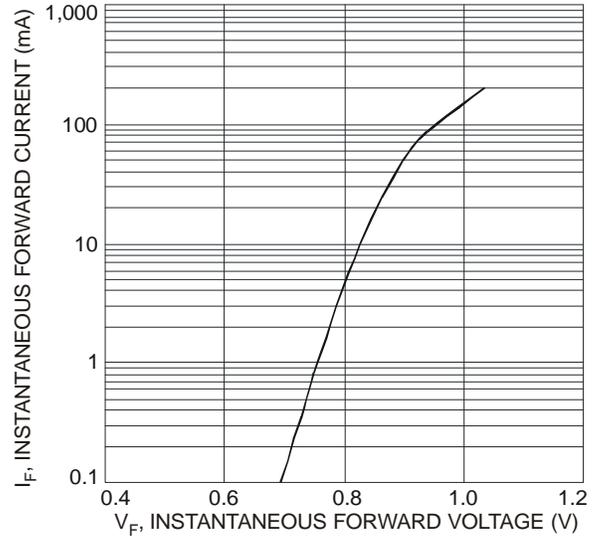


Fig. 2 Typical Forward Characteristics

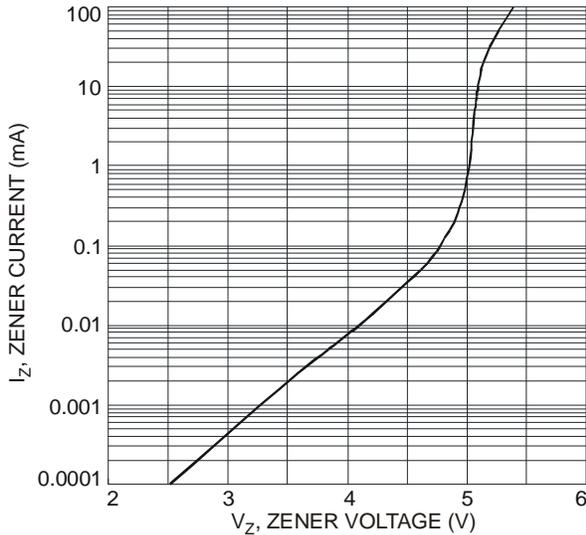


Fig. 3 Typical Zener Breakdown Characteristics

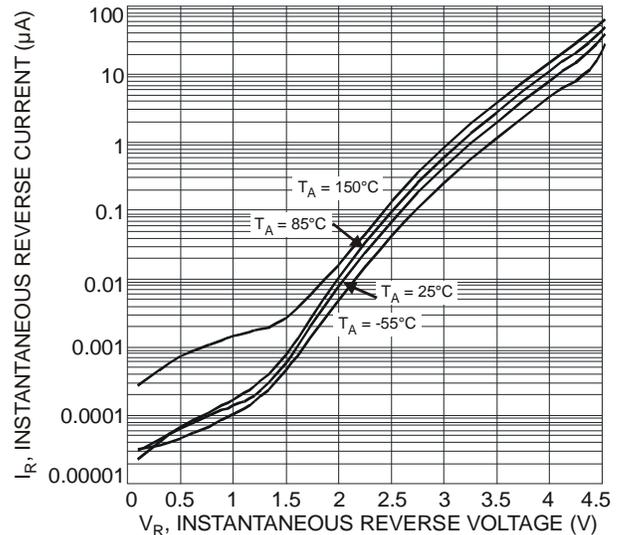


Fig. 4 Typical Reverse Characteristics

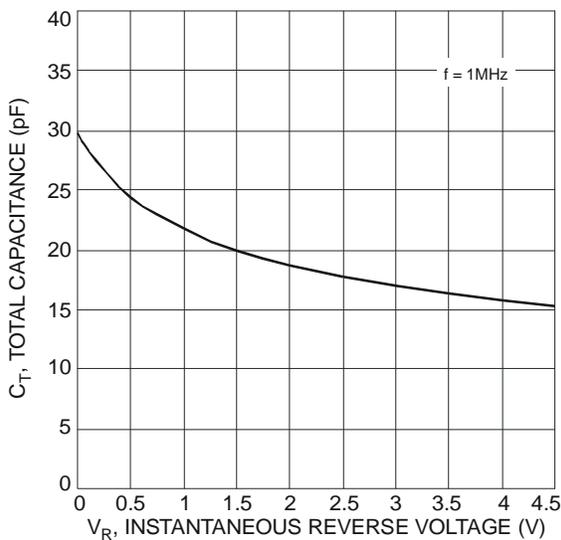


Fig. 5 Typical Total Capacitance

**Ordering Information** (Note 8)

Part Number	Case	Packaging
UDZ5V1BF-7	SOD-323F	3000/Tape & Reel

Notes: 8. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



GM = Product Type Marking Code  
(See Electrical Characteristics Table)  
YM = Date Code Marking  
Y = Year (ex: X = 2010)  
M = Month (ex: 9 = September)

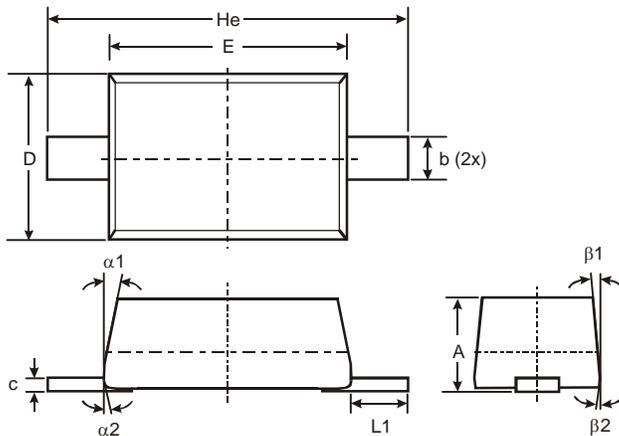
Date Code Key

Year Code	2010	2011	2012	2013	2014	2015	2016
Year Code	X	Y	Z	A	B	C	D

Month Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Month Code	1	2	3	4	5	6	7	8	9	O	N	D

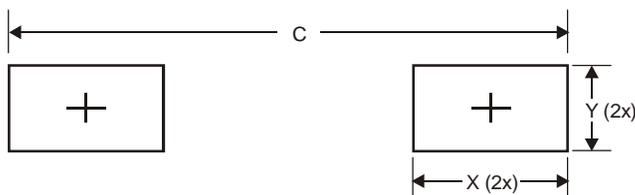
**Package Outline Dimensions**



SOD-323F			
Dim	Min	Max	Typ
A	0.60	0.75	-
b	0.25	0.35	-
c	0.05	0.26	-
D	1.15	1.35	1.25
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L1	0.30	0.50	0.40
$\alpha 1$	-	-	7°
$\alpha 2$	-	-	3°
$\beta 1$	-	-	7°
$\beta 2$	-	-	3°

All Dimensions in mm

**Suggested Pad Layout**



Dimensions	Value (in mm)
X	0.710
Y	0.403
C	2.700

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