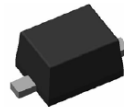


Features

- 500mW Power Dissipation on FR-4 PCB
- Very Tight Tolerance on Vz
- Ideally Suited for Automated Assembly Processes
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD323F
- 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
- Weight: 0.01 grams (approximate)



Top View

Ordering Information (Note 3)

Part Number	Case	Packaging
DDZxx(x)BSF-7*	SOD323F	3000/Tape & Reel

* Add "-7" to the appropriate type number in Electrical Characteristics Table on page 2. Example: DDZ10BSF-7.

- 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>.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



xx = Product Type Marking Code
(See Electrical Characteristics Table)
YM = Date Code Marking
Y = Year (ex: W = 2009)
M = Month (ex: 9 = September)

Date Code Key

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

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

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P_D	500	mW
Thermal Resistance, Junction to Ambient Air (Note 4)	$R_{\theta JA}$	250	$^\circ\text{C/W}$
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 5 & 6)			Maximum Zener Impedance $f = 1\text{kHz}$	Maximum Reverse Current (Note 7)	
		$V_Z @ I_{ZT}$		I_{ZT}		$Z_{ZT} @ I_{ZT}$	I_R
		Min (V)	Max (V)	mA	Ω	μA	V
DDZ3V6BSF	KH	3.60	3.84	20	130	10	1
DDZ5V1BSF	KM	4.94	5.20	20	130	7.5	2
DDZ5V6BSF	KN	5.45	5.73	20	80	7.5	2
DDZ6V2BSF	KO	5.96	6.27	20	50	7.5	3
DDZ6V8BSF	KP	6.49	6.83	20	30	7.5	4
DDZ10BSF	KT	9.41	9.90	20	30	7.5	8.94
DDZ11BSF	KU	10.50	11.05	10	30	7.5	9.98
DDZ12BSF	KV	11.44	12.03	10	30	0.07	10.9
DDZ12CSF	YV	11.74	12.35	10	35	0.07	11.2
DDZ13CSF	YW	12.99	13.66	10	35	0.07	12.3
DDZ15BSF	KX	13.89	14.62	10	40	0.07	13.2
DDZ15CSF	YX	14.35	15.09	10	40	0.07	13.6
DDZ18ASF	4Z	16.22	17.06	10	45	0.07	15.4
DDZ18BSF	KZ	16.82	17.70	10	45	0.07	16
DDZ20BSF	ZJ	18.63	19.59	10	50	0.07	17.7
DDZ20DSF	2J	19.72	20.72	10	50	0.07	18.7
DDZ22BSF	ZK	20.64	21.71	5	55	0.07	19.6
DDZ24BSF	ZL	22.61	23.77	5	60	0.07	21.5
DDZ27DSF	2M	26.29	27.64	5	70	0.07	25
DDZ30BSF	ZN	27.70	29.13	5	80	0.07	26
DDZ36BSF	ZP	32.79	34.49	5	90	0.07	31.2
DDZ39CSF	PQ	36.00	37.85	5	85	0.2	30

- Notes:
- Device mounted on FR-4 PCB with 10mm x 10mm pad, board size 35mm * 25mm.
 - The Zener voltage is measured 40ms after power is supplied.
 - For inquiries on tighter tolerances, or alternate nominal zener voltages, please contact your Diodes Inc. sales representative for availability and minimum order details.
 - Short duration pulse test used to minimize self-heating effect.

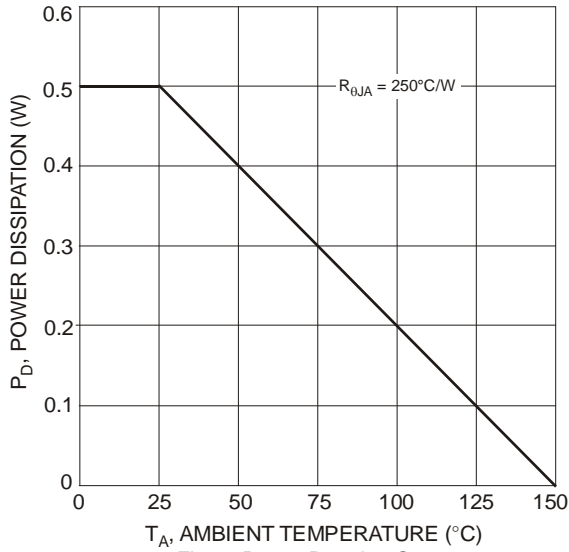


Fig. 1 Power Derating Curve

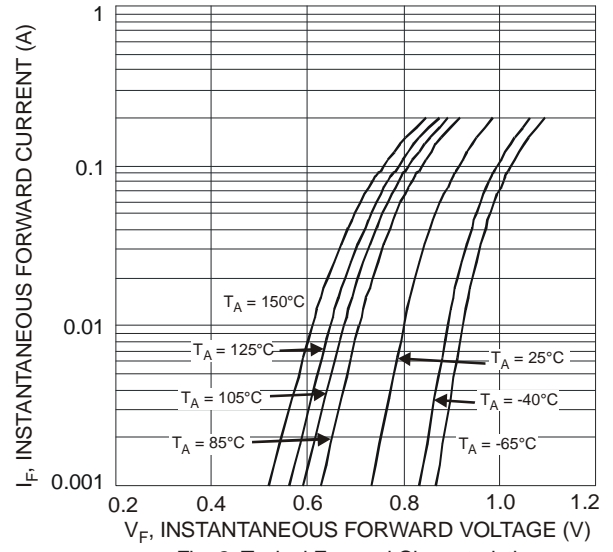


Fig. 2 Typical Forward Characteristics

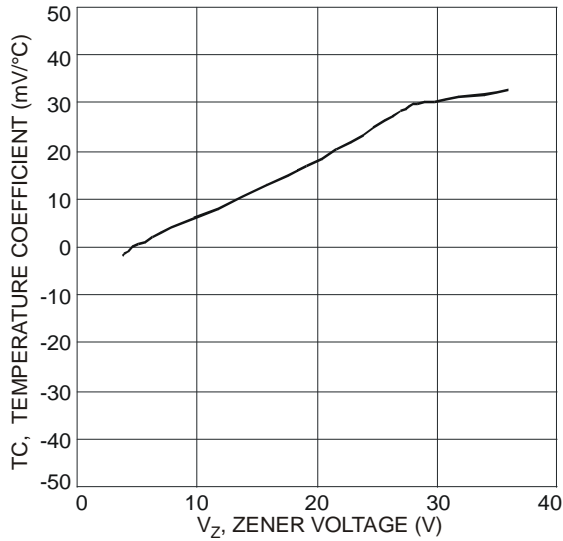


Fig. 3 Temperature Coefficient vs. Zener Voltage

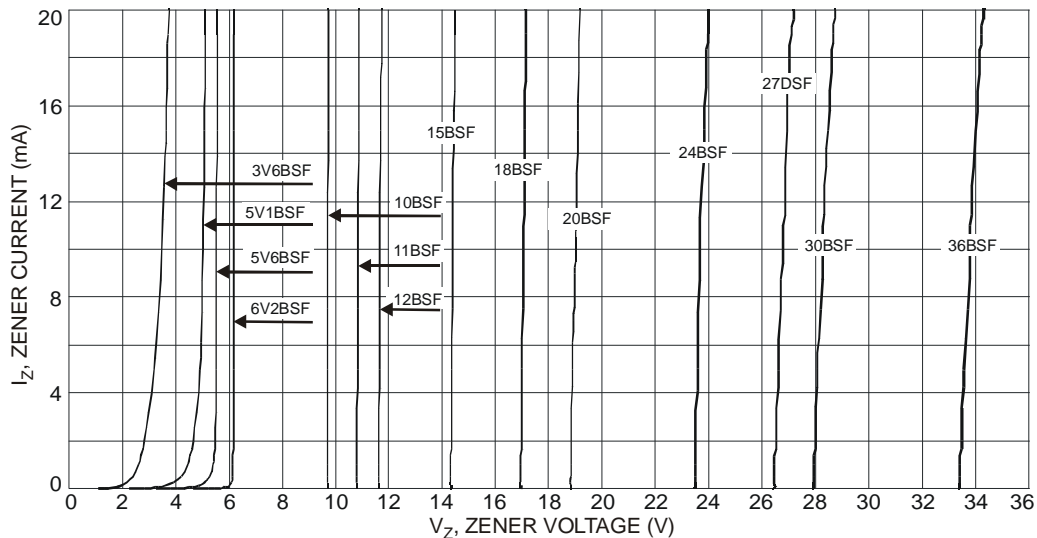
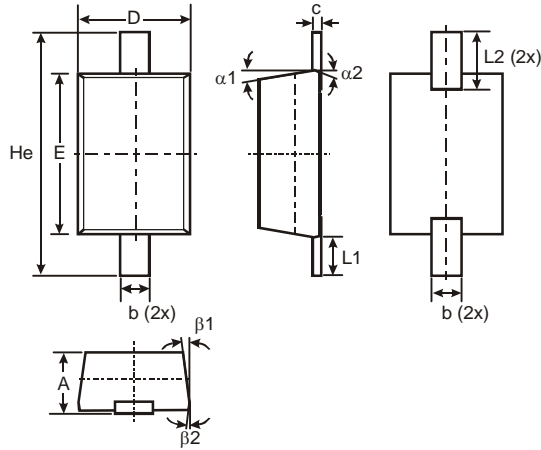


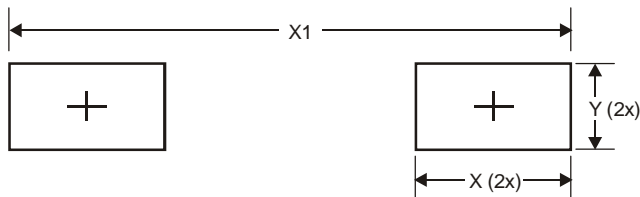
Fig. 4 Typical Zener Breakdown Characteristics

Package Outline Dimensions



SOD323F			
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
L2	0.41	0.61	0.51
α1	–	–	7°
α2	–	–	3°
β1	–	–	7°
β2	–	–	3°
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
X	0.710
X1	2.700
Y	0.403

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