0.5W SURFACE MOUNT PRECISION ZENER DIODE

NEW PRODUCT

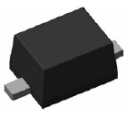
Features

- 500mW Power Dissipation on FR-4 PCB
- Very Tight Tolerance on V_Z
- Ideally Suited for Automated Assembly Processes
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **PPAP Capable (Note 4)**

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 e3
- Weight: 0.004 grams (Approximate)

SOD323F



Top View

Ordering Information (Note 5)

Part Number	Compliance	Case	Packaging
DDZ5V6ASFQ-7	Automotive	SOD323F	3,000/Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated’s definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to https://www.diodes.com/quality/.
5. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



4N = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: F = 2018)
M = Month (ex: 9 = September)

Date Code Key

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Code	F	G	H	I	J	K	L	M	N	O

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

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Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Forward Voltage	@I_F = 10mA	V_F	0.9	V

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P_D	500	mW
Thermal Resistance, Junction to Ambient Air (Note 6)	$R_{\theta JA}$	250	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Type Number	Marking Code	Zener Voltage Range (Note 7)			Maximum Zener Impedance f = 1kHz	Maximum Reverse Current (Note 8)	
		V_Z @ I_{ZT}		I_{ZT}	Z_{ZT} @ I_{ZT}	I_R	@ V_R
		Min (V)	Max (V)	mA	Ω	μA	V
DDZ5V6ASFQ	4N	5.28	5.55	20	80	7.5	2

Notes: 6. Device mounted on FR-4 PCB with 10mm x 10mm pad, board size 35mm x 25mm.
7. The Zener voltage is measured <40ms after power is supplied.
8. Short duration pulse test used to minimize self-heating effect.

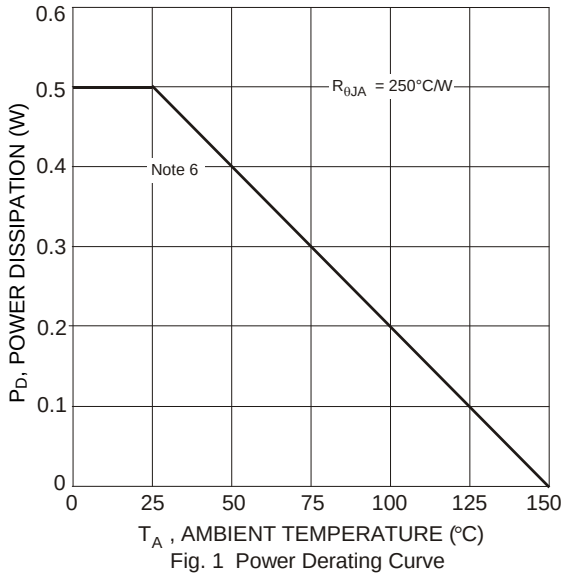


Fig. 1 Power Derating Curve

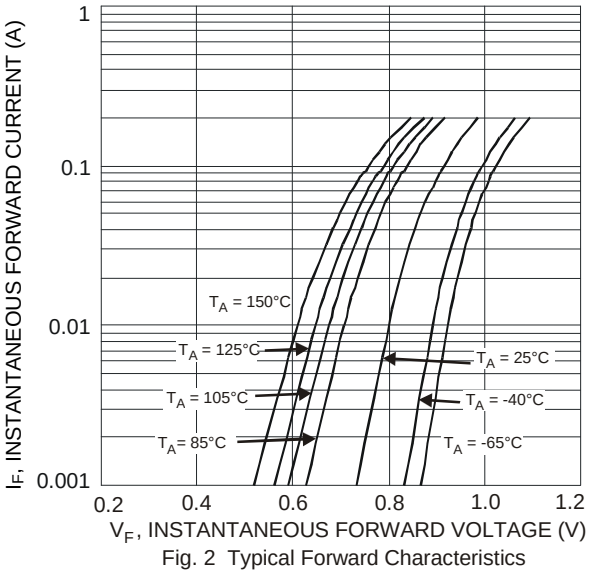


Fig. 2 Typical Forward Characteristics

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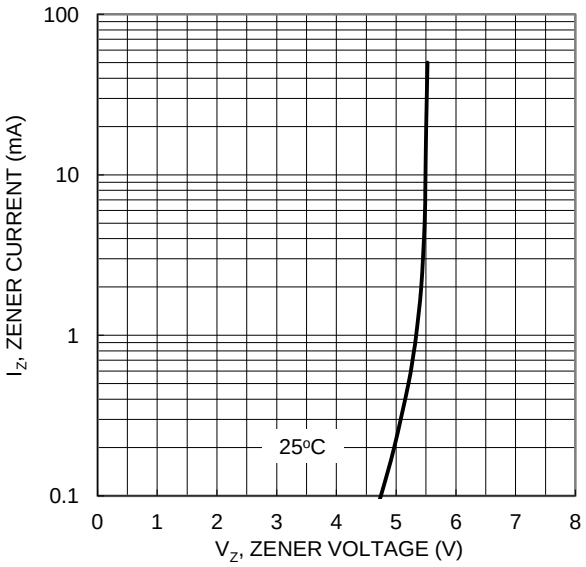


Fig. 3 Typical Reverse Characteristics

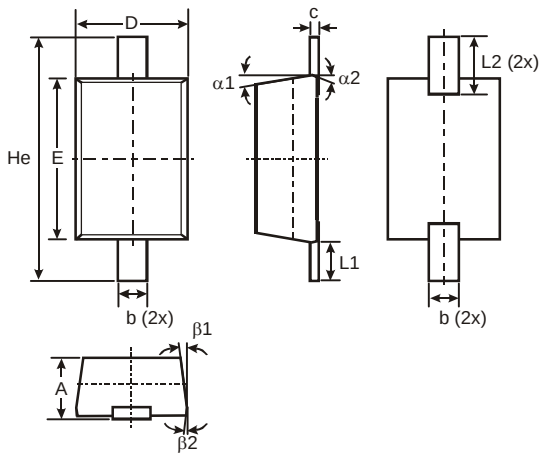
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Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOD323F

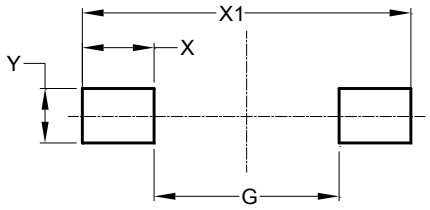


SOD323F			
Dim	**Min**	**Max**	**Typ**
A	0.60	0.75	-
b	0.25	0.35	-
c	0.05	0.26	-
D	1.15	1.35	1.25
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L1	0.30	0.50	0.40
L2	0.41	0.61	0.51
α1	-	-	7°
α2	-	-	3°
β1	-	-	7°
β2	-	-	3°
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOD323F



Dimensions	Value (in mm)
G	1.280
X	0.710
X1	2.700
Y	0.403

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