



**THE DATASHEET OF  
DZ9F24S92-7**



## Features

- Ultra-Small Surface Mount Package (1.0 x 0.6 x 0.37mm)
- Flat-Lead, Thermally-Efficient Package Design
- Exposed, Easily Visible Terminals, No X-ray Inspection of Solder Joints Required (As for DFN Packages)
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: SOD923 (0.2mm Lead Width)
- 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 Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208 (e3)
- Weight: 0.001 grams (Approximate)

### SOD923 (0.2mm Lead Width)



Top View

## Ordering Information (Note 4)

Part Number (Type Number)-7*	Compliance Standard	Case SOD923 (0.2mm Lead Width)	Packaging 10,000/Tape & Reel
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\*Add "-7" to the appropriate type number in Electrical Characteristics Table, example: 6.2V Zener = DZ9F6V2S92-7.

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information

### SOD923 (0.2mm Lead Width)



XX = Product Type Marking Code  
(See Electrical Characteristics Table)

**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

**Thermal Characteristics**

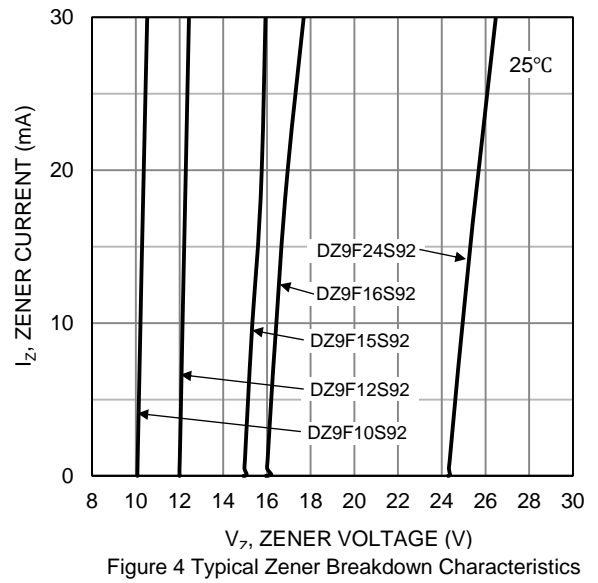
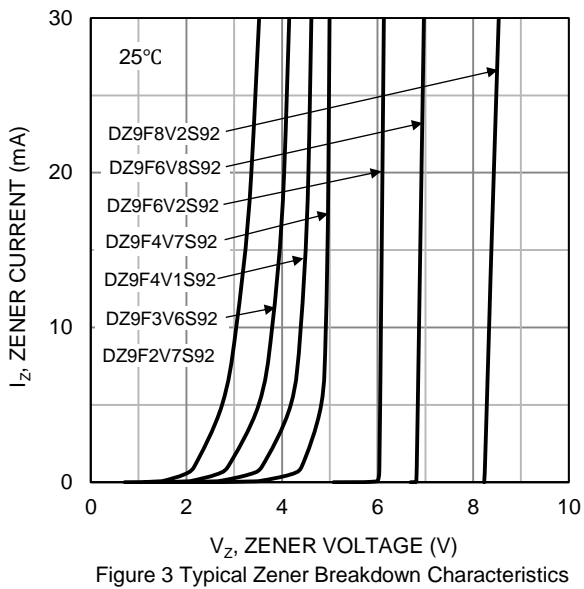
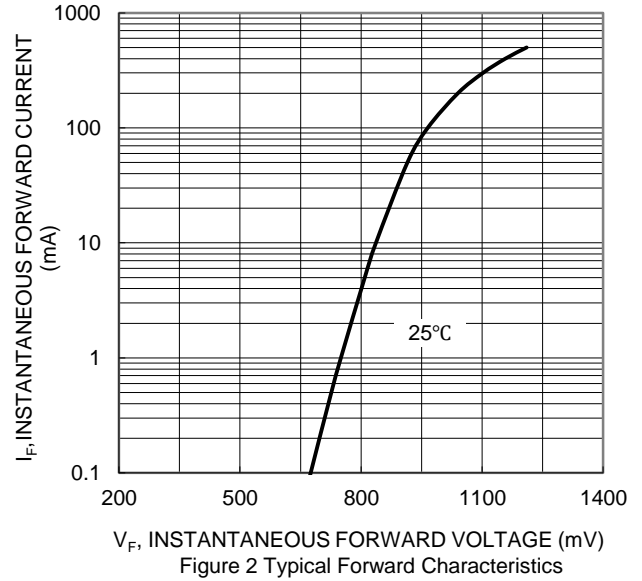
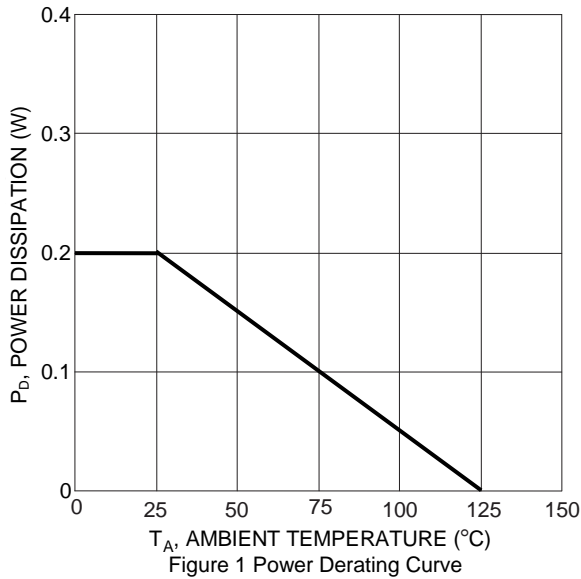
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	200	mW
Derate Above +25°C (Note 5)		2.0	mW/°C
Thermal Resistance, Junction to Ambient Air (Note 5)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

Note: 5. Device mounted on FR-4 PCB with minimum recommended pad layout, as shown in Diodes Incorporated's Suggested Pad Layout document, which can be found on our website at <http://www.diodes.com/package-outlines.html>.

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Type Number	Marking Codes	Zener Voltage Range (Note 6)			Maximum Zener Impedance (Note 7)			Temperature Coefficient		Total Capacitance	Maximum Reverse Current (Note 6)		
		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>	T <sub>C</sub> @ I <sub>ZT</sub>		C <sub>T</sub> @ f = 1MHz, V <sub>R</sub> = 0V	I <sub>R</sub> @ V <sub>R</sub>	V <sub>R</sub>
		Nom (V)	Min (V)	Max (V)	mA	Ω	mA	Min (mV/°C)	Max (mV/°C)	(pF)	μA	V	
DZ9F2V7S92	ZB	2.7	2.57	2.84	5	100	1,000	1	-3.5	0	210	20	1
DZ9F3V0S92	ZC	3.0	2.85	3.15	5	100	1,000	1	-3.5	0	210	10	1
DZ9F3V3S92	ZD	3.3	3.14	3.47	5	100	1,000	1	-3.5	0	210	10	1
DZ9F3V6S92	ZE	3.6	3.42	3.78	5	100	1,000	1	-3.5	0	210	10	1
DZ9F3V9S92	ZF	3.9	3.71	4.10	5	100	1,000	1	-3.5	-2.5	210	5	1
DZ9F4V1S92	ZI	4.1	3.94	4.36	5	100	1,000	1	-3.5	0	210	5	1
DZ9F4V3S92	ZG	4.3	4.09	4.52	5	100	1,000	1	-3.5	0	210	5	1
DZ9F4V7S92	ZH	4.7	4.47	4.94	5	100	800	0.5	-3.5	0.2	150	2	1
DZ9F5V1S92	ZI	5.1	4.85	5.36	5	80	500	0.5	-2.7	1.2	130	2	1.5
DZ9F5V6S92	ZJ	5.6	5.32	5.88	5	60	200	0.5	-2.0	2.5	115	1	2.5
DZ9F6V2S92	ZK	6.2	5.89	6.51	5	60	100	0.5	0.4	3.7	110	1	3
DZ9F6V8S92	ZL	6.8	6.46	7.14	5	40	60	0.5	1.2	4.5	105	0.5	3.5
DZ9F7V5S92	ZM	7.5	7.13	7.88	5	30	60	0.5	2.5	5.3	100	0.5	4
DZ9F8V2S92	ZN	8.2	7.79	8.61	5	30	60	0.5	3.2	6.2	90	0.5	5
DZ9F9V1S92	ZO	9.1	8.65	9.56	5	30	60	0.5	3.8	7	80	0.5	6
DZ9F10S92	ZP	10	9.50	10.50	5	30	60	0.5	4.5	8	80	0.1	7
DZ9F11S92	ZQ	11	10.45	11.55	5	30	60	0.5	5.4	9	80	0.1	8
DZ9F12S92	ZR	12	11.40	12.60	5	30	80	0.5	6	10	80	0.1	9
DZ9F13S92	ZS	13	12.35	13.65	5	37	80	0.5	7	11	75	0.1	10
DZ9F15S92	ZT	15	14.25	15.75	5	42	80	0.5	9.2	13	70	0.1	11
DZ9F16S92	ZU	16	15.20	16.80	5	50	80	0.5	10.4	14	65	0.1	12
DZ9F18S92	ZV	18	17.10	18.90	5	50	80	0.5	12.4	16	60	0.1	14
DZ9F20S92	ZW	20	19.00	21.00	5	55	100	0.5	14.4	18	55	0.1	15.4
DZ9F22S92	ZX	22	20.90	23.10	5	55	100	0.5	15.4	20	55	0.1	16.8
DZ9F24S92	ZY	24	22.80	25.20	5	70	120	0.5	16.8	22	50	0.1	18.9

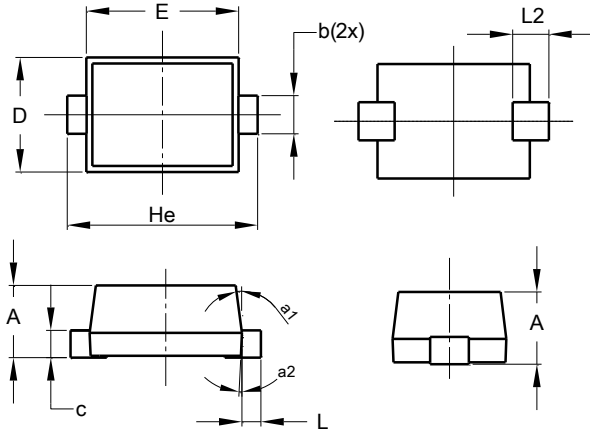
Notes: 6. Short duration pulse test used to minimize self-heating effect.  
7. f = 1kHz.



**Package Outline Dimensions**

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

SOD923 (0.2mm Lead Width)



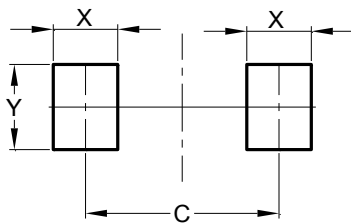
SOD923 (0.2mm Lead Width)			
Dim	Min	Max	Typ
A	0.34	0.40	0.37
b	0.15	0.25	0.20
c	0.070	0.170	0.120
D	0.55	0.65	0.60
E	0.75	0.85	0.80
He	0.95	1.05	1.00
L	0.05	0.15	0.10
L2	0.190 REF		
a1	0°	8°	7°
a2	2°	4°	3°
All Dimensions in mm			

NEW PRODUCT

**Suggested Pad Layout**

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

SOD923 (0.2mm Lead Width)



Dimensions	Value (in mm)
C	0.900
X	0.300
Y	0.400

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