

## Product Summary (@T<sub>A</sub> = +25°C)

V <sub>R</sub>	I <sub>R</sub>	t <sub>rr</sub>
75V	1.0µA	4ns

## Description and Applications

The BAV16S92 is a 75V, 1.0µA and 4ns switching diode that is optimized for fast switching speed. It is ideally suited for use in applications such as the following:

- Mobile
- Portable Electronics
- Consumer Electronics

## Features

- Fast Switching Speed
- 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
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe (Lead-Free Plating). Solderable per MIL-STD-202, Method 208<sup>(e3)</sup>
- Weight: 0.001 grams (Approximate)



Top View



Device Schematic

## Ordering Information (Note 4)

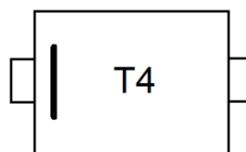
Product	Compliance	Case	Packaging
BAV16S92-7	Standard	SOD923	10,000/Tape & Reel

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 <http://www.diodes.com/products/packages.html>.

## Marking Information

SOD923



T4 = Product Type Marking Code  
Bar Denotes Cathode Side

**Maximum Ratings** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	75	V
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current	$I_{FM}$	300	mA
Average Rectified Output Current	$I_O$	150	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$	$I_{FSM}$	2.0	A
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\text{s}$		0.5	

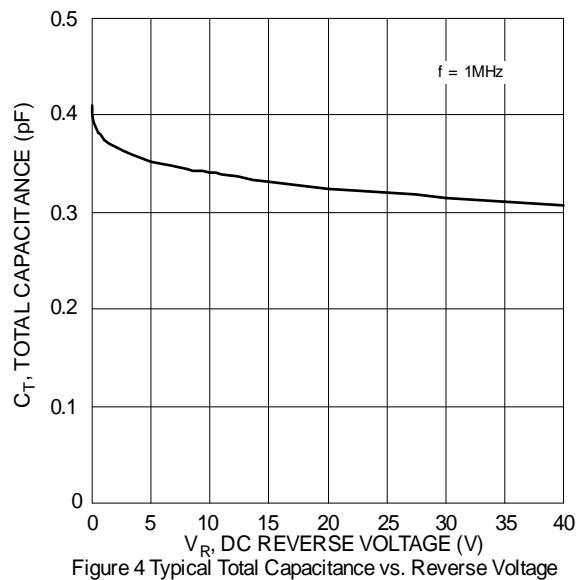
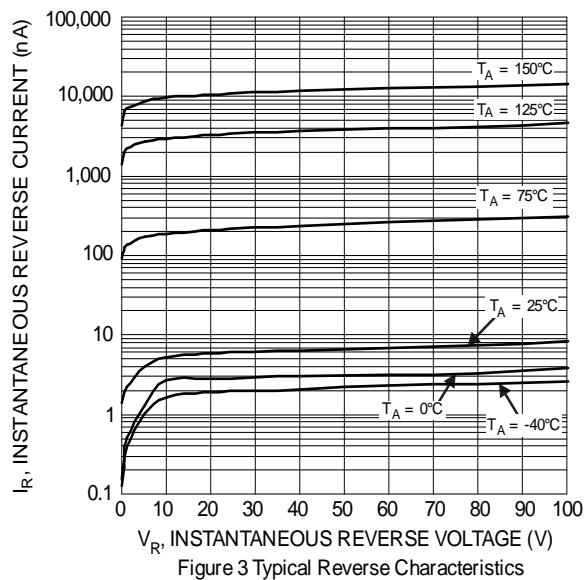
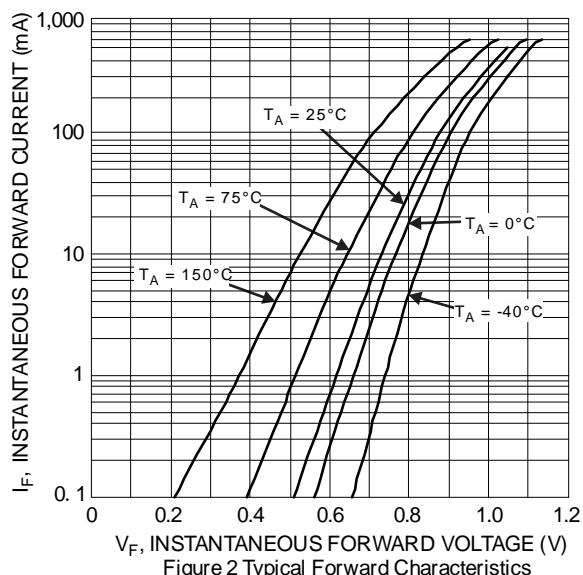
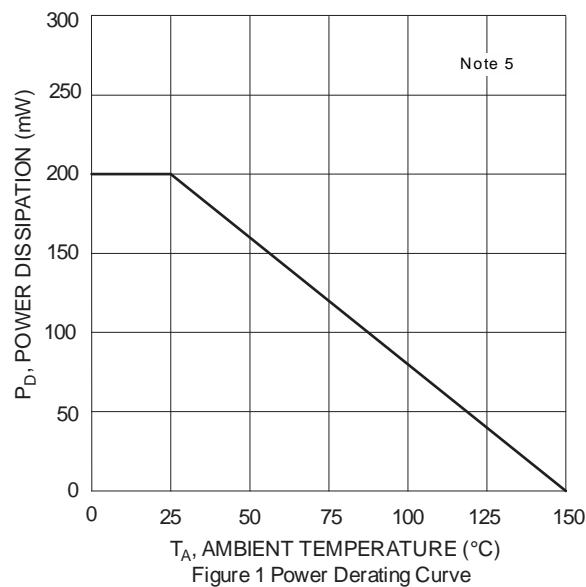
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_D$	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{0JA}$	625	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°C

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

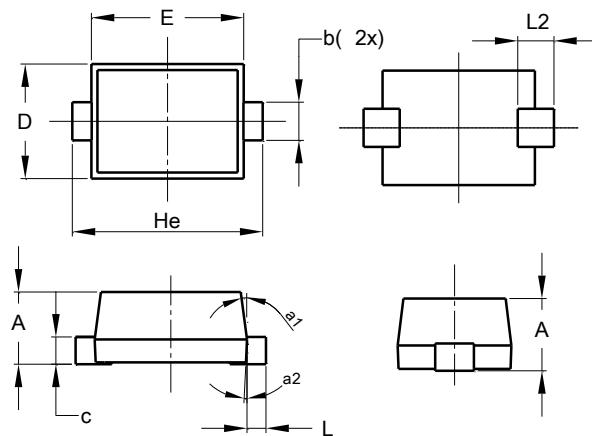
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	75	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	—	0.715 0.855 1.0 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Peak Reverse Current (Note 6)	$I_{RM}$	—	1.0 50 30 25	$\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$ nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_J = +150^\circ\text{C}$ $V_R = 25\text{V}, T_J = +150^\circ\text{C}$ $V_R = 20\text{V}$
Total Capacitance	$C_T$	—	2.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	4.0	ns	$I_F = I_R = 10\text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.  
 6. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

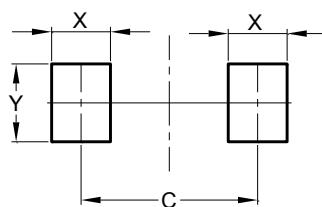


SOD923 (0.2mm Lead Width)			
Dim	Min	Max	Typ
<b>A</b>	0.34	0.40	0.37
<b>b</b>	0.15	0.25	0.20
<b>c</b>	0.070	0.170	0.120
<b>D</b>	0.55	0.65	0.60
<b>E</b>	0.75	0.85	0.80
<b>He</b>	0.95	1.05	1.00
<b>L</b>	0.05	0.15	0.10
<b>L2</b>	0.190 REF		
<b>a1</b>	0°	8°	7°
<b>a2</b>	2°	4°	3°

All Dimensions in mm

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
<b>C</b>	0.900
<b>X</b>	0.300
<b>Y</b>	0.400

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