

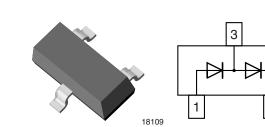
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#### **Vishay Semiconductors**

# Small Signal Switching Diode, Dual

#### Features

- · Fast switching speed
- High conductance
- Surface mount package ideally suited for automatic insertion
- · Connected in series
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



#### **Mechanical Data**

Case: SOT-23 Weight: approx. 8.8 mg Packaging Codes/Options: GS18 / 10 k per 13" reel (8 mm tape), 10 k/box GS08 / 3 k per 7" reel (8 mm tape), 15 k/box

#### **Parts Table**

Part	Ordering code	Marking	Remarks
BAV99-V	BAV99-V-GS18 or BAV99-V-GS08	JE	Tape and Reel

RoHS

COMPLIANT

#### Absolute Maximum Ratings

T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Non repetitive peak reverse voltage		V <sub>RM</sub>	100	V
Repetitive peak reverse voltage = Working peak reverse voltage = DC Blocking voltage		$V_{RRM} = V_{RWM} = V_{R}$	70	V
Peak forward surge current	t <sub>p</sub> = 1s	I <sub>FSM</sub>	1	А
	t <sub>p</sub> = 1 μs	I <sub>FSM</sub>	4.5	A
Average forward current	Half wave rectification with resistive load and f ≥ 50 MHz, on ceramic substrate 10 mm x 8 mm x 0.7 mm	I <sub>FAV</sub>	150	mA
Forward current	On ceramic substrate 10 mm x 8 mm x 0.7 mm	١ <sub>F</sub>	250	mA
Power dissipation	On ceramic substrate 10 mm x 8 mm x 0.7 mm	P <sub>tot</sub>	300	mW

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## **Thermal Characteristics**

T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	On ceramic substrate 10 mm x 8 mm x 0.7 mm	R <sub>thJA</sub>	430	K/W
Junction and storage temperature range		$T_j = T_{stg}$	- 55 to + 150	°C

## **Electrical Characteristics**

#### T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Тур.	Max.	Unit
Forward voltage	I <sub>F</sub> = 1 mA	V <sub>F</sub>			715	mV
	I <sub>F</sub> = 10 mA	V <sub>F</sub>			855	mV
	I <sub>F</sub> = 50 mA	V <sub>F</sub>			1	V
	l <sub>F</sub> = 150 mA	V <sub>F</sub>			1.25	V
Reverse current	V <sub>R</sub> = 70 V	I <sub>R</sub>			2.5	μA
	V <sub>R</sub> = 70 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			50	μA
	V <sub>R</sub> = 25 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			30	μA
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz	CD			1.5	pF
Reverse recovery time	$I_F = 10 \text{ mA to } I_R = 1 \text{ mA},$ $V_R = 6 \text{ V}, \ \text{R}_L = 100 \Omega$	t <sub>rr</sub>			6	ns

**Typical Characteristics** T<sub>amb</sub> = 25 °C, unless otherwise specified

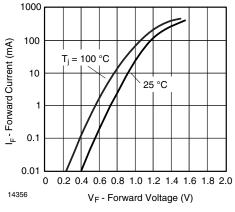


Figure 1. Forward Current vs. Forward Voltage

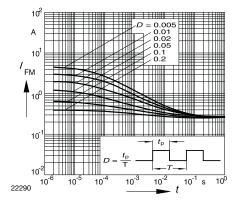
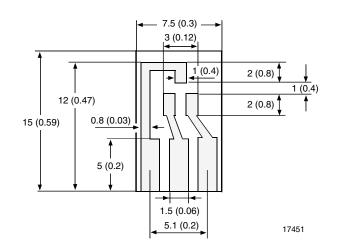


Figure 2. Peak forward current  $I_{FM} = f(t_p)$ 

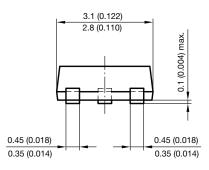


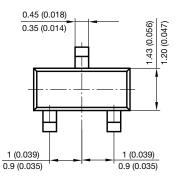
# Layout for R<sub>thJA</sub> test

Thickness: Fiberglass 1.5 mm (0.059 in.) Copper leads 0.3 mm (0.012 in.)

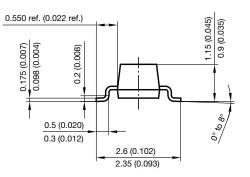


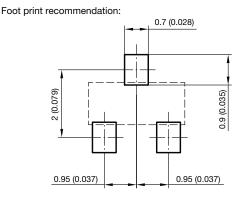
### Package Dimensions in millimeters (inches): SOT-23





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