

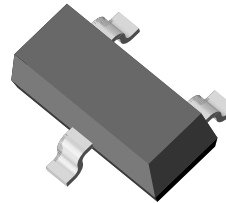
Small Signal Switching Diode, Dual

Features

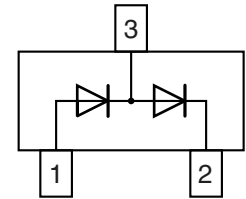
- Fast switching speed
- High conductance
- Surface mount package ideally suited for automatic insertion
- Connected in series
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



18109



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

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Non repetitive peak reverse voltage		V_{RM}	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	$t_p = 1\text{ s}$	I_{FSM}	1	A
	$t_p = 1\text{ }\mu\text{s}$	I_{FSM}	4.5	A
Average forward current	Half wave rectification with resistive load and $f \geq 50\text{ MHz}$, on ceramic substrate 10 mm x 8 mm x 0.7 mm	I_{FAV}	150	mA
Forward current	On ceramic substrate 10 mm x 8 mm x 0.7 mm	I_F	250	mA
Power dissipation	On ceramic substrate 10 mm x 8 mm x 0.7 mm	P_{tot}	300	mW

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	On ceramic substrate 10 mm x 8 mm x 0.7 mm	R_{thJA}	430	K/W
Junction and storage temperature range		$T_j = T_{stg}$	- 55 to + 150	$^{\circ}\text{C}$

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 1\text{ mA}$	V_F			715	mV
	$I_F = 10\text{ mA}$	V_F			855	mV
	$I_F = 50\text{ mA}$	V_F			1	V
	$I_F = 150\text{ mA}$	V_F			1.25	V
Reverse current	$V_R = 70\text{ V}$	I_R			2.5	μA
	$V_R = 70\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
	$V_R = 25\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			30	μA
Diode capacitance	$V_R = 0, f = 1\text{ MHz}$	C_D			1.5	pF
Reverse recovery time	$I_F = 10\text{ mA}$ to $I_R = 1\text{ mA}$, $V_R = 6\text{ V}, R_L = 100\ \Omega$	t_{rr}			6	ns

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

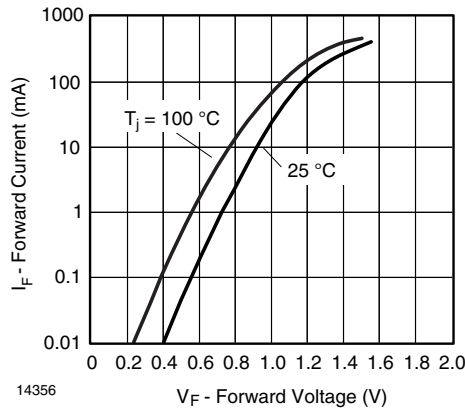


Figure 1. Forward Current vs. Forward Voltage

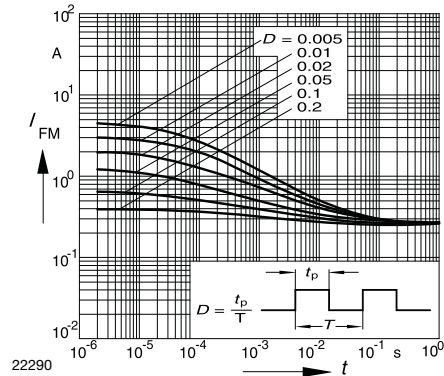


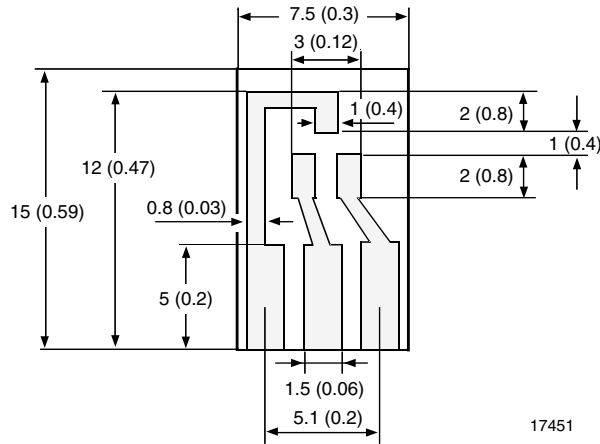
Figure 2. Peak forward current $I_{FM} = f(t)$

Layout for R_{thJA} test

Thickness:

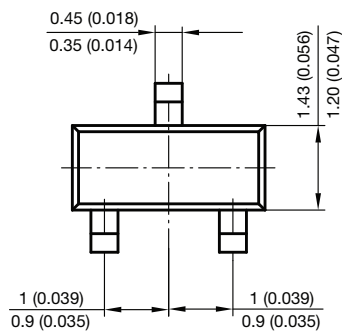
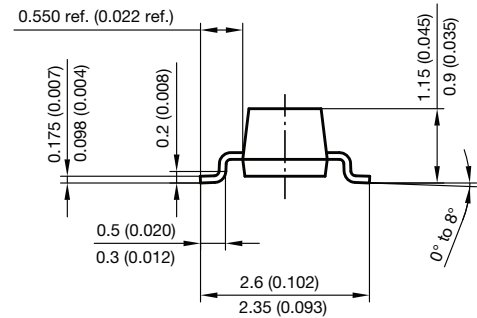
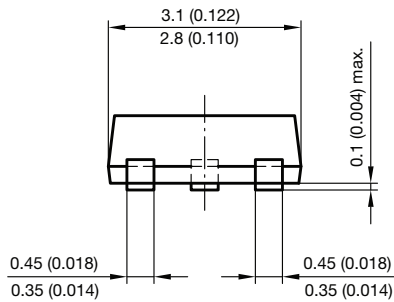
Fiberglass 1.5 mm (0.059 in.)

Copper leads 0.3 mm (0.012 in.)

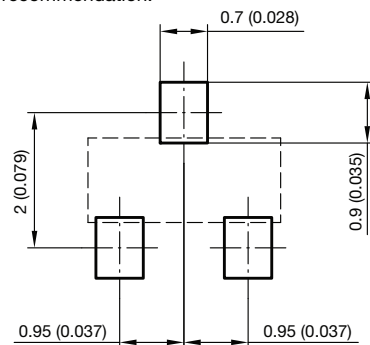


17451

Package Dimensions in millimeters (inches): SOT-23



Foot print recommendation:



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Rev. 8 - Date: 23.Sept.2009

17418



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