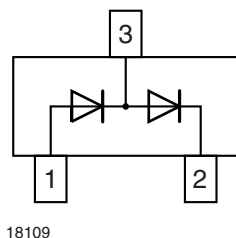


Small Signal Switching Diode, Dual in Series



FEATURES

- Fast switching speed
- High conductance
- Surface mount package ideally suited for automatic insertion
- Connected in series
- AEC-Q101 qualified
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE

PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAV99	BAV99-E3-08 or BAV99-E3-18	Dual diodes serial	JE	Tape and reel
	BAV99-HE3-08 or BAV99-HE3-18			

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$, 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	
Peak forward surge current	$t_p = 1\text{ s}$	I_{FSM}	1	A
	$t_p = 1\text{ }\mu\text{s}$		4.5	
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	$I_{F(AV)}$	150	mA
Forward current	On ceramic substrate 10 mm x 8 mm x 0.7 mm	I_F	250	
Power dissipation	On ceramic substrate 10 mm x 8 mm x 0.7 mm	P_{tot}	300	mW

THERMAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, 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	$^{\circ}\text{C}$
Operating temperature range		T_{op}	- 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			0.715	V
	$I_F = 10\text{ mA}$				0.855	V
	$I_F = 50\text{ mA}$				1	V
	$I_F = 150\text{ mA}$				1.25	V
Reverse current	$V_R = 70\text{ V}$	I_R			2500	nA
	$V_R = 70\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$				50	μA
	$V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$				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 $i_R = 1\text{ mA}$, $V_R = 6\text{ V}, R_L = 100\text{ }\Omega$	t_{rr}			6	ns

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

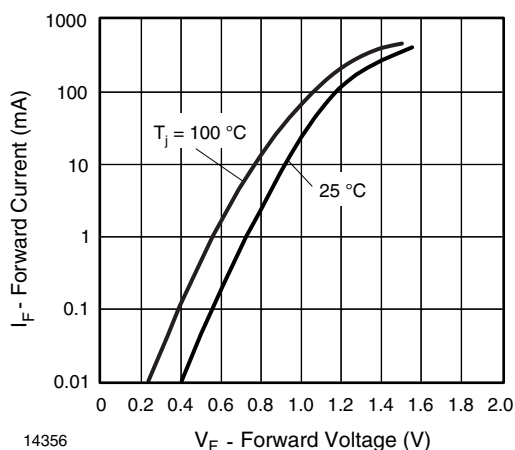


Fig. 1 - Forward Current vs. Forward Voltage

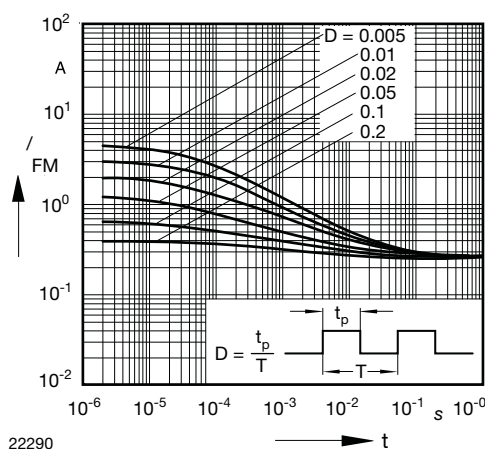


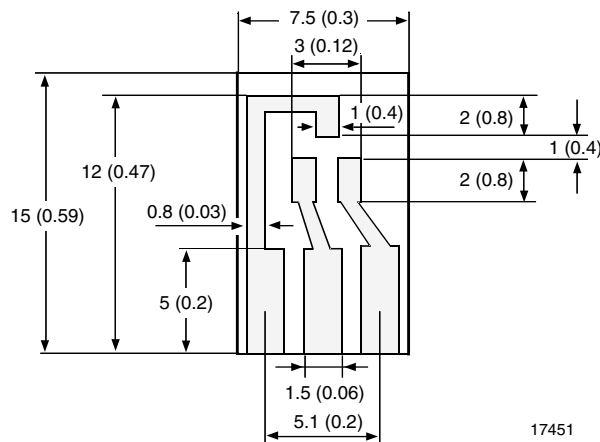
Fig. 2 - Peak forward current $I_{FM} = f(t_p)$

LAYOUT FOR R_{thJA} TEST

Thickness:

Fiberglass 1.5 mm (0.059 inches)

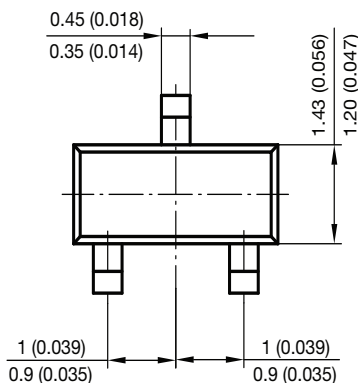
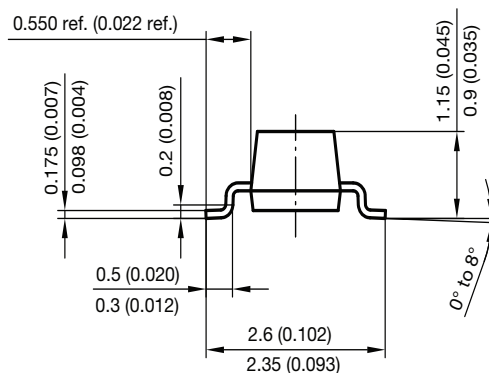
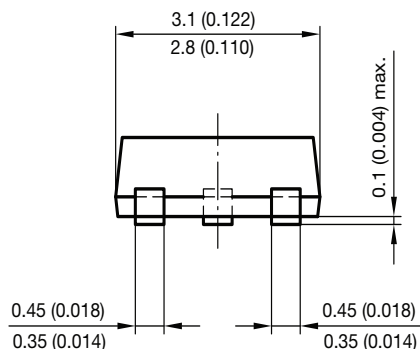
Copper leads 0.3 mm (0.012 inches)



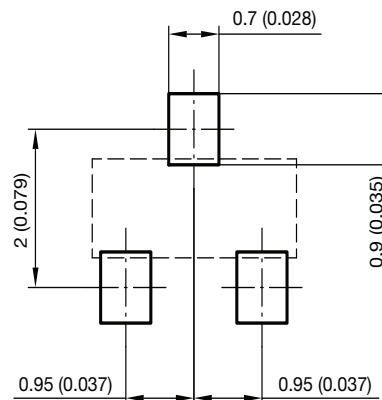
17451



PACKAGE DIMENSIONS in millimeters (inches): **SOT-23**



Foot print recommendation:



Document no.: 6.541-5014.01-4
Rev. 8 - Date: 23.Sept.2009
17418



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