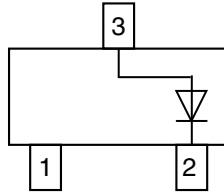


Small Signal Fast Switching Diode



FEATURES

- Fast switching speed
- Surface mount package
- Well suited for automated assembly process
- 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
BAL99	BAL99-E3-08 or BAL99-E3-18 BAL99-HE3-08 or BAL99-HE3-18	Single diode	JF	Tape and reel

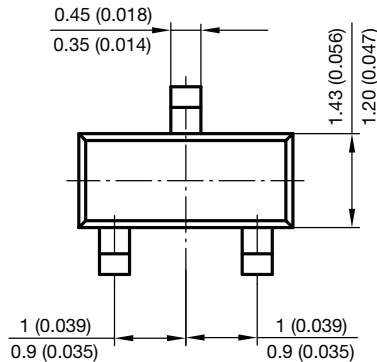
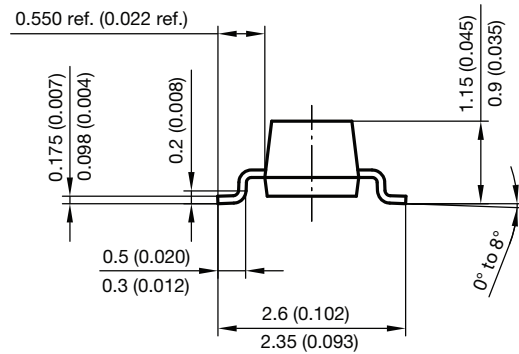
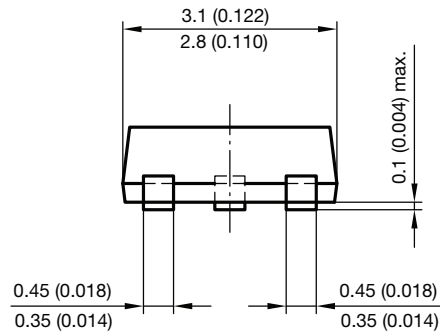
ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage = working peak reverse voltage = DC blocking voltage		$V_{RRM} = V_{RWM} = V_R$	70	V
Peak forward surge current	$t_p = 1\text{ }\mu\text{s}$	I_{FSM}	2	A
	$t_p = 1\text{ ms}$	I_{FSM}	1	A
	$t_p = 1\text{ s}$	I_{FSM}	0.5	A
Average forward current		I_{FAV}	250	mA
Power dissipation	On fiberglass substrate 30 mm x 10 mm x 1.6 mm	P_{tot}	350	mW

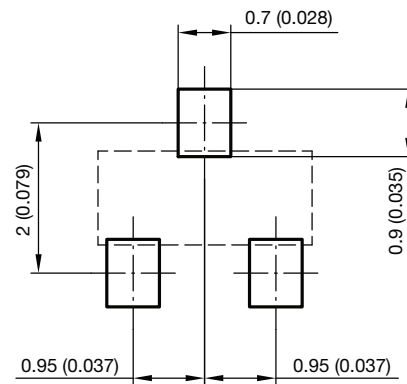
THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	On fiberglass substrate 30 mm x 10 mm x 1.6 mm	R_{thJA}	357	K/W
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature range		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
	$I_F = 10\text{ mA}$	V_F			0.855	V
	$I_F = 50\text{ mA}$	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			100	μA
	$V_R = 25\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			30	μA
Diode capacitance	$V_F = V_R = 0, f = 1\text{ MHz}$	C_D			1.5	pF
Reverse recovery time	$I_F = I_R = 10\text{ mA}, i_R = 1\text{ mA}$	t_{rr}			6	ns

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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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331