

Vishay Semiconductors

Small Signal Schottky Diode



FEATURES

 These diodes feature very low turn-on voltage and fast switching



 These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges



AEC-Q101 qualified

- COMPLIA
- 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 <u>www.vishay.com/doc?99912</u>

MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 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	
BAT54W	BAT54W-E3-08 or BAT54W-E3-18	Cinalo diodo	L4	Tana and roal	
	BAT54W-HE3-08 or BAT54W-HE3-18	Single diode	L4	Tape and reel	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Repetitive peak reverse voltage		V _{RRM}	30	V	
Forward continuous current (1)		I _F	200	mA	
Repetitive peak forward current (1)	$t_p < 1 \text{ s, } \delta < 0.5$	I _{FRM}	300	mA	
Surge forward current (1)	$t_p = 10 \text{ ms}$ I_{FSM}		600	mA	
Power dissipation (1)		P _{tot}	150	mW	

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air (1)		R _{thJA}	650	K/W	
Maximum junction temperature		T _j	125	°C	
Storage temperature range		T _{stg}	- 65 to + 150	°C	
Operating temperature range		T _{op}	- 55 to + 125	°C	

Note

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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reserve breakdown voltage	Tested with 100 μA pulses	V _(BR)	30			V
Leakage current (1)	V _R = 25 V	I _R			2	μΑ
	I _F = 0.1 mA	V _F			240	mV
	I _F = 1 mA	V_{F}			320	mV
Forward voltage (1)	I _F = 10 mA	V_{F}			400	mV
	I _F = 30 mA	V_{F}			500	mV
	I _F = 100 mA	V_{F}			800	mV
Diode capacitance	V _R = 1 V, f = 1 MHz	C _D			10	pF
Reserve recovery time	I_F = 10 mA, I_R = 10 mA, I_R = 1 mA, R_L = 100 Ω	t _{rr}			5	ns

Note

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

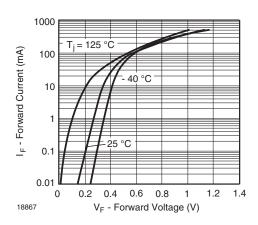


Fig. 1 - Typical Forward Current vs. Forward Voltage vs. Various Temperatures

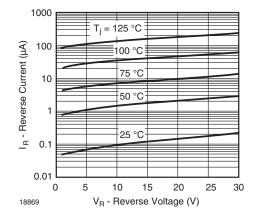


Fig. 3 - Typical Reverse Current vs. Reverse Voltage vs. Various Temperatures

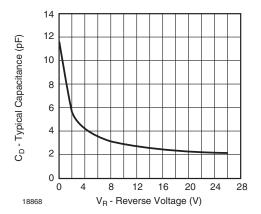
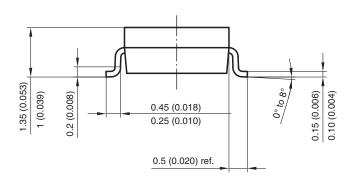


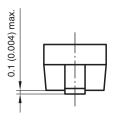
Fig. 2 - Typical Capacitance vs. Reverse Applied Voltage

 $^{^{(1)}\,}$ Pulse test: t_p < 300 $\mu s,~\theta < 2~\%$

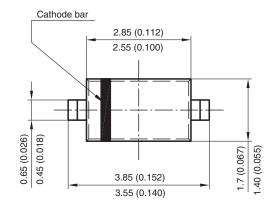
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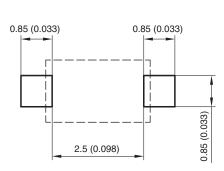
PACKAGE DIMENSIONS in millimeters (inches): SOD-123





Mounting Pad Layout





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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина,

дом 2, корпус 4, литера А.