

Vishay Semiconductors

Small Signal Schottky Diode



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

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





- For general purpose applications
- 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 <u>www.vishay.com/doc?99912</u>

PARTS TABLE					
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS	
BAT42W	BAT42W-E3-08 or BAT42W-E3-18	Cinale diede	L2		
	BAT42W-HE3-08 or BAT42W-HE3-18	- Single diode		Tone and real	
BAT43W	BAT43W-E3-08 or BAT43W-E3-18	Cingle diede	L3	Tape and reel	
	BAT43W-HE3-08 or BAT43W-HE3-18	- Single diode	LS		

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}	500	mA	
Surge forward current (1)	t _p < 10 ms	I _{FSM}	4	А	
Power dissipation (1)	T _{amb} = 65 °C	P _{tot}	200	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}	300	K/W	
Junction temperature		Tj	125	°C	
Operating temperature range		T _{op}	- 55 to + 125	°C	
Storage temperature range		T _{stg}	- 55 to + 150	°C	

Note

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



Vishay Semiconductors

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I _R = 100 μA (pulsed)		V _(BR)	30			V
Leakage current (1)	V _R = 25 V		I _R			0.5	μA
Leakage current (1)	V _R = 25 V, T _j = 100 °C		I _R			100	μA
	I _F = 200 mA		V _F			1000	mV
	I _F = 10 mA	BAT42W	V _F			400	mV
Forward voltage (1)	$I_F = 50 \text{ mA}$	BAT42W	V _F			650	mV
	I _F = 2 mA	BAT43W	V _F	260		330	mV
	I _F = 15 mA	BAT43W	V _F			450	mV
Diode capacitance	V _R = 1 V, f = 1 MHz		C _D		7		pF
Reverse 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)

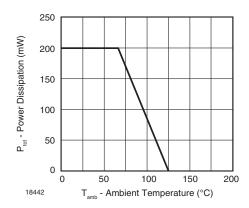


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

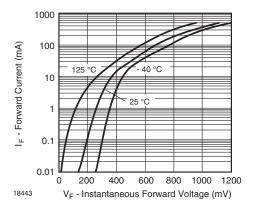


Fig. 2 - Typical Forward Characteristics

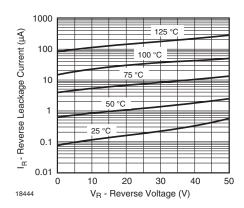


Fig. 3 - Typical Reverse Characteristics

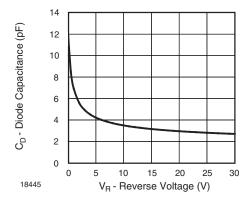


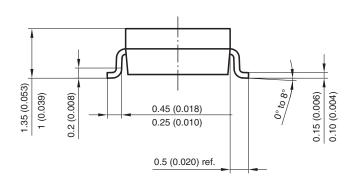
Fig. 4 - Typical Capacitance vs. Reverse Voltage

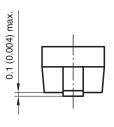
 $^{^{(1)}}$ Pulse test; $t_p \leq 300~\mu s,~t_p/T < 0.02$



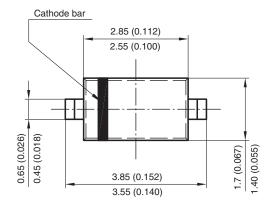
Vishay Semiconductors

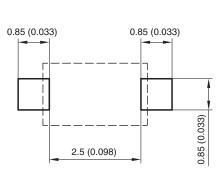
PACKAGE DIMENSIONS in millimeters (inches): SOD-123





Mounting Pad Layout





Rev. 4 - Date: 24. Sep. 2009 Document no.: S8-V-3910.01-001 (4)



Legal Disclaimer Notice

Vishay

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

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.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

Revision: 02-Oct-12 Document Number: 91000



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов:
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001:
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- 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.