

Small Signal Schottky Diode



FEATURES

- Integrated protection ring against static discharge
- Very low forward voltage
- AEC-Q101 qualified
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Applications where a very low forward voltage is required

MECHANICAL DATA

Case: DO-35

Weight: approx. 125 mg

Cathode band color: black

Packaging codes/options:

TR/10K per 13" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

PARTS TABLE

PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAT85S	BAT85S-TR or BAT85S-TAP	Single diode	BAT85S	Tape and reel/ammpack

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	30	V
Peak forward surge current	$t_p \leq 10 \text{ ms}$	I_{FSM}	5	A
Repetitive peak forward current	$t_p < 1 \text{ s}$	I_{FRM}	300	mA
Forward continuous current		I_F	200	mA
Average forward current	PCB mounting, $l = 4 \text{ mm}$; $V_{RWM} = 25 \text{ V}$, $T_{amb} = 50^{\circ}\text{C}$	I_{FAV}	200	mA

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	$l = 4 \text{ mm}$, $T_L = \text{constant}$	R_{thJA}	350	K/W
Junction temperature		T_J	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 0.1 \text{ mA}$	V_F			240	mV
	$I_F = 1 \text{ mA}$	V_F			320	mV
	$I_F = 10 \text{ mA}$	V_F			400	mV
	$I_F = 30 \text{ mA}$	V_F			500	mV
	$I_F = 100 \text{ mA}$	V_F			800	mV
Reverse current	$V_R = 25 \text{ V}$	I_R			2	μA
Diode capacitance	$V_R = 1 \text{ V}$, $f = 1 \text{ MHz}$	C_D			10	pF
Reverse recovery time	$I_F = 10 \text{ mA}$ to $I_R = 10 \text{ mA}$ to $i_R = 1 \text{ mA}$	t_{rr}			5	ns

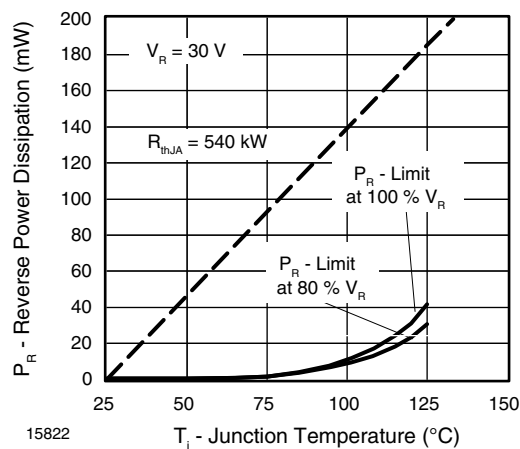
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Maximum Reverse Power Dissipation vs. Junction Temperature

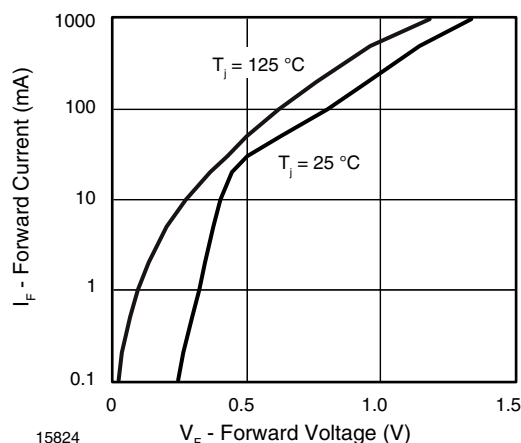


Fig. 3 - Forward Current vs. Forward Voltage

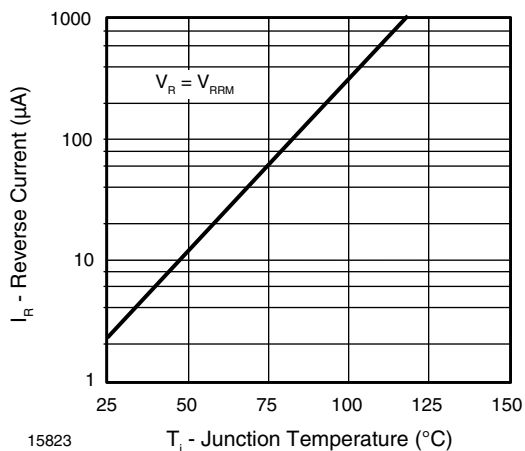


Fig. 2 - Reverse Current vs. Junction Temperature

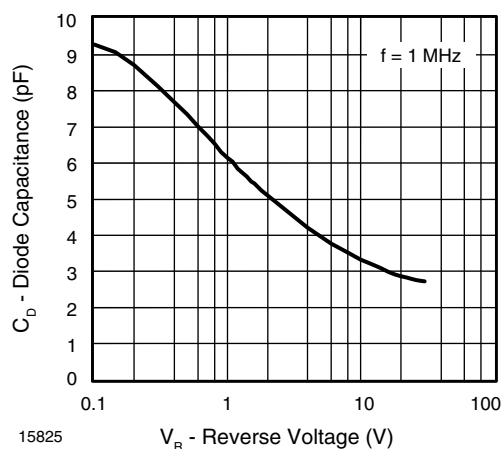
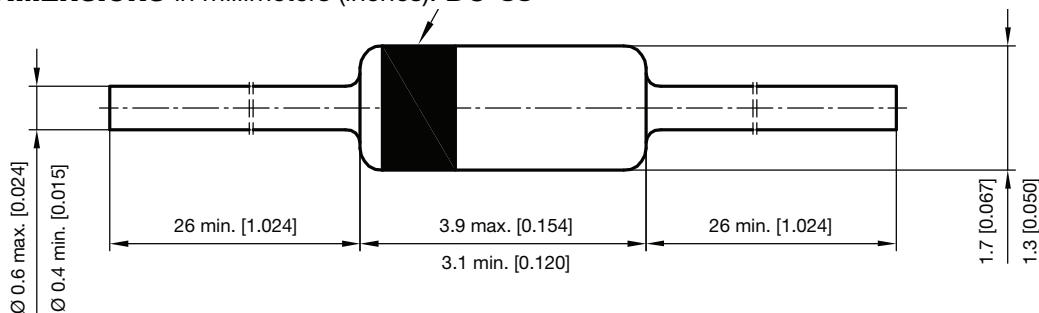


Fig. 4 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **DO-35**


Rev. 6 - Date: 19. December 2011
Document no.: SB-V-3906.04-031(4)
94 9366



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.