



Small Signal Schottky Diode

Features

- Integrated protection ring against static discharge
- · Very low forward voltage
- · AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition





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/10 k per 13" reel (52 mm tape), 50 k/box TAP/10 k per Ammopack (52 mm tape), 50 k/box

Parts Table

Part	Ordering code	Type Marking	Remarks
BAT85S	BAT85S-TR or BAT85S-TAP	BAT85S	Tape and Reel/Ammopack

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	30	V
Peak forward surge current	t _p ≤ 10 ms	I _{FSM}	5	A
Repetitive peak forward current	t _p ≤1 s	I _{FRM}	300	mA
Forward continuous current		I _F	200	mA
Average forward current	PCB mounting, I = 4 mm; V _{RWM} = 25 V, T _{amb} = 50 °C	I _{FAV}	200	mA

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	I = 4 mm, T _L = constant	R_{thJA}	350	K/W
Junction temperature		T _j	125	°C
Storage temperature range		T _{stg}	- 65 to + 150	°C

Document Number 85513

For technical questions within your region, please contact one of the following: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

Rev. 1.9, 23-Jul-10

Vishay Semiconductors



Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Тур.	Max.	Unit
Forward voltage	I _F = 0.1 mA	V_{F}			240	mV
	I _F = 1 mA	V_{F}			320	mV
	I _F = 10 mA	V _F			400	mV
	I _F = 30 mA	V_{F}			500	mV
	I _F = 100 mA	V _F			800	mV
Reverse current	V _R = 25 V	I _R			2	μΑ
Diode capacitance	V _R = 1 V, f = 1 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 °C, unless otherwise specified

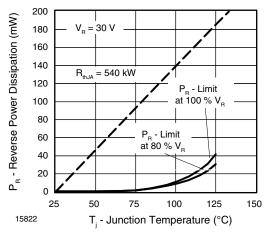


Figure 1. Max. Reverse Power Dissipation vs.
Junction Temperature

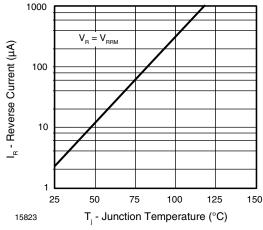


Figure 2. Reverse Current vs. Junction Temperature

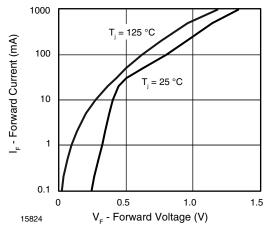


Figure 3. Forward Current vs. Forward Voltage

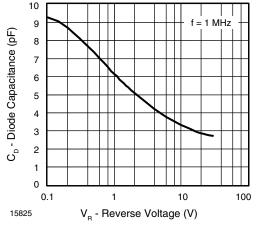
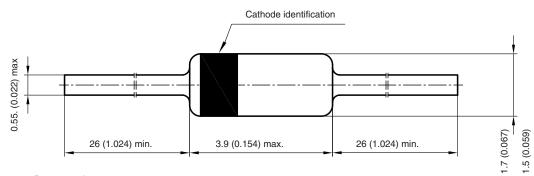


Figure 4. Diode Capacitance vs. Reverse Voltage



Vishay Semiconductors

Package Dimensions in millimeters (inches): DO-35



Rev. 6 - Date: 29. January 2007 Document no.: 6.560-5004.02-4

94 9366

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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.

Document Number: 91000 www.vishay.com
Revision: 11-Mar-11 1