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**Vishay Semiconductors** 

### **Small Signal Schottky Diode**



#### FEATURES

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

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Reverse voltage		V <sub>R</sub>	30	V	
Peak forward surge current	t <sub>p</sub> ≤ 10 ms	I <sub>FSM</sub>	5	A	
Repetitive peak forward current	t <sub>p</sub> < 1 s	I <sub>FRM</sub>	300	mA	
Forward continuous current		I <sub>F</sub>	200	mA	
Average forward current	PCB mounting, I = 4 mm; V <sub>RWM</sub> = 25 V, T <sub>amb</sub> = 50 °C	I <sub>FAV</sub>	200	mA	

<b>THERMAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air	$I = 4 \text{ mm}, T_L = \text{constant}$	R <sub>thJA</sub>	350	K/W	
Junction temperature		Tj	125	°C	
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C	

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I <sub>F</sub> = 0.1 mA	V <sub>F</sub>			240	mV
	I <sub>F</sub> = 1 mA	V <sub>F</sub>			320	mV
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>			400	mV
	I <sub>F</sub> = 30 mA	V <sub>F</sub>			500	mV
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			800	mV
Reserve current	V <sub>R</sub> = 25 V	I <sub>R</sub>			2	μA
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	CD			10	pF
Reserve recovery time	$I_F = 10 \text{ mA to } I_R = 10 \text{ mA to } i_R = 1 \text{ mA}$	t <sub>rr</sub>			5	ns

Rev. 1.8, 06-May-13

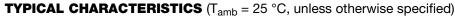
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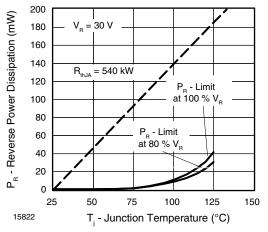


Fig. 1 - Maximum Reverse Power Dissipation vs. Junction Temperature

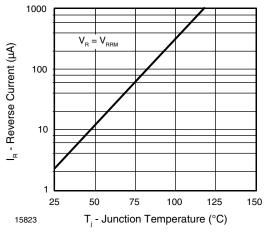


Fig. 2 - Reverse Current vs. Junction Temperature

PACKAGE DIMENSIONS in millimeters (inches): DO-35

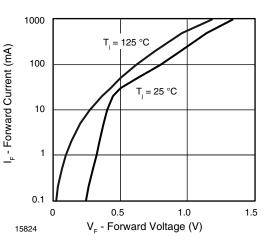


Fig. 3 - Forward Current vs. Forward Voltage

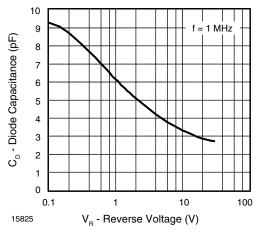
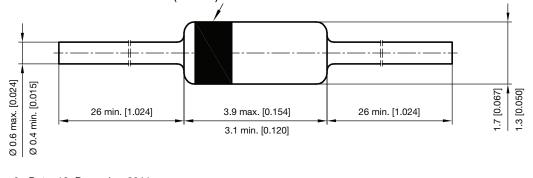


Fig. 4 - Diode Capacitance vs. Reverse Voltage



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