

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

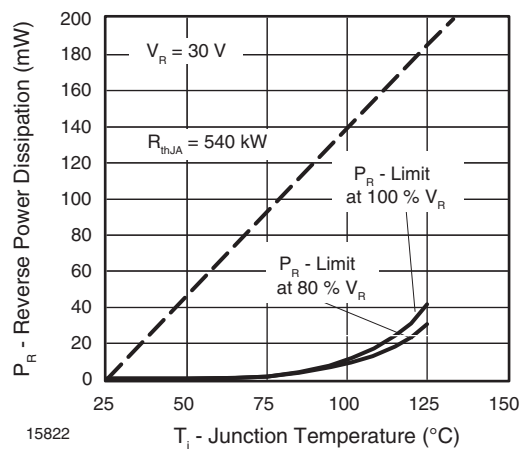
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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

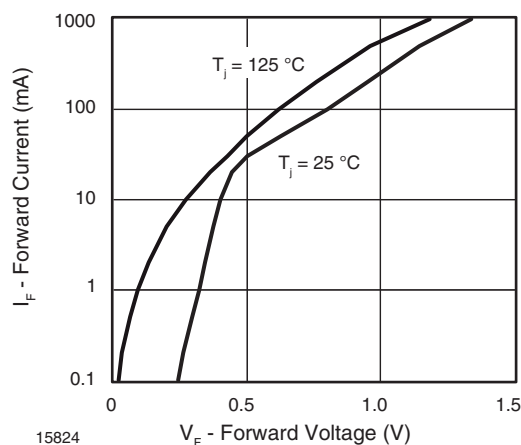


Fig. 3 - Forward Current vs. Forward Voltage

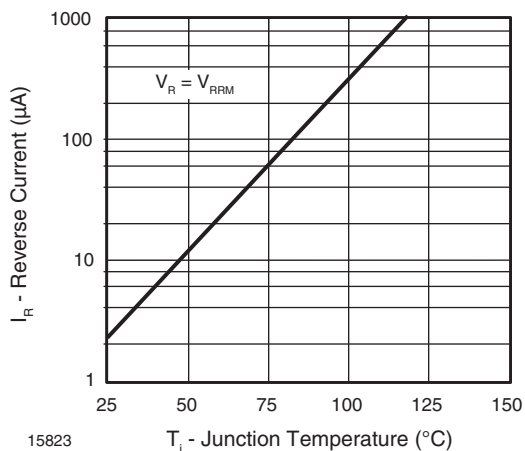


Fig. 2 - Reverse Current vs. Junction Temperature

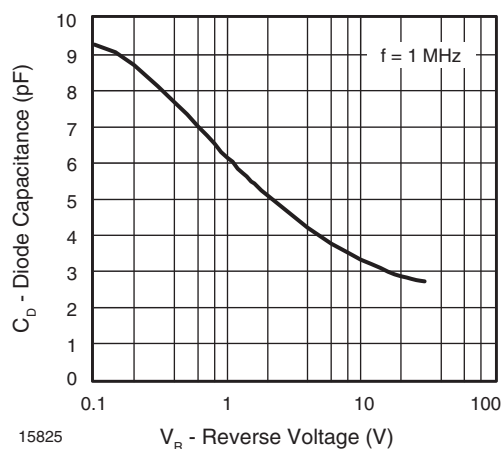
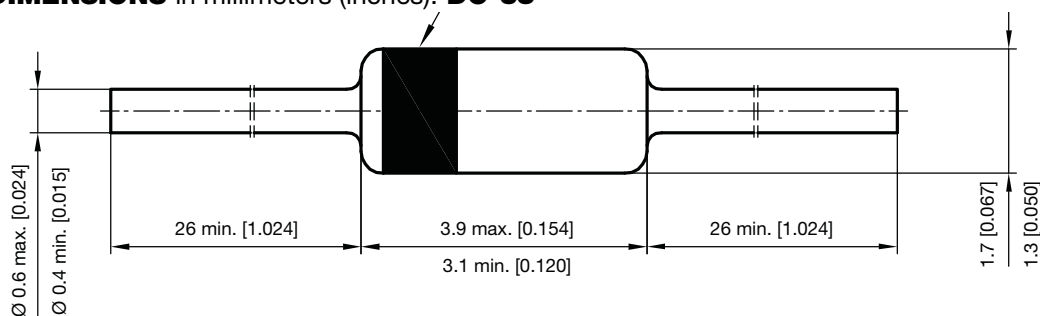


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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


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