

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
BAT86S	BAT86S-TR or BAT86S-TAP	Single diode	BAT86S	Tape and reel/ammpack

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	50	V
Peak forward surge current	$t_p \leq 10\text{ ms}$	I_{FSM}	5	A
Repetitive peak forward current	$t_p \leq 1\text{ s}$	I_{FRM}	500	mA
Forward continuous current		I_F	200	mA
Average forward current	PCB mounting, $l = 4\text{ mm}$; $V_{RWM} = 25\text{ V}$, $T_{amb} = 50\text{ }^{\circ}\text{C}$	I_{FAV}	200	mA

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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}	320	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 0.1\text{ mA}$	V_F			300	mV
	$I_F = 1\text{ mA}$	V_F			380	mV
	$I_F = 10\text{ mA}$	V_F			450	mV
	$I_F = 30\text{ mA}$	V_F			600	mV
	$I_F = 100\text{ mA}$	V_F			900	mV
Reverse current	$V_R = 40\text{ V}$	I_R			5	μA
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D			8	pF

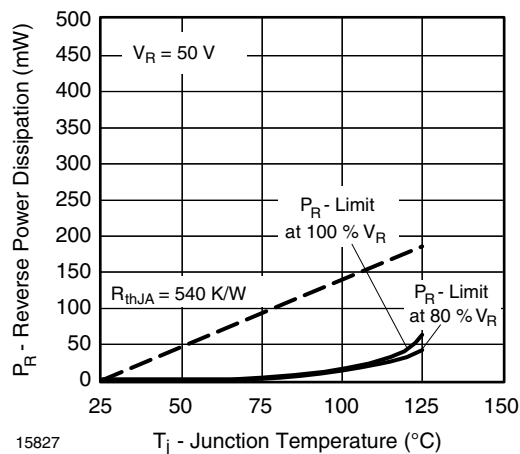
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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

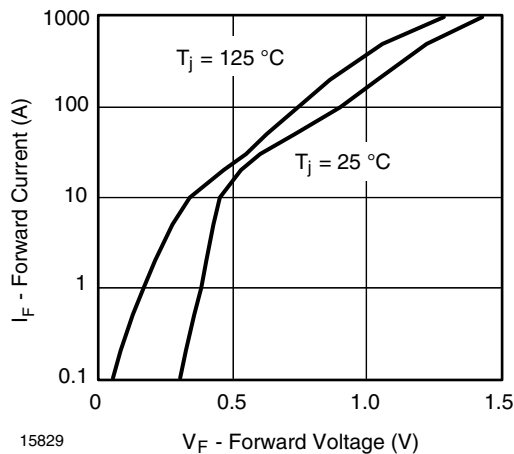


Fig. 3 - Forward Current vs. Forward Voltage

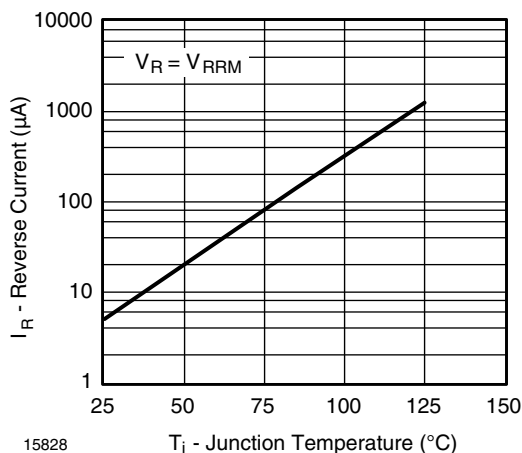


Fig. 2 - Reverse Current vs. Junction Temperature

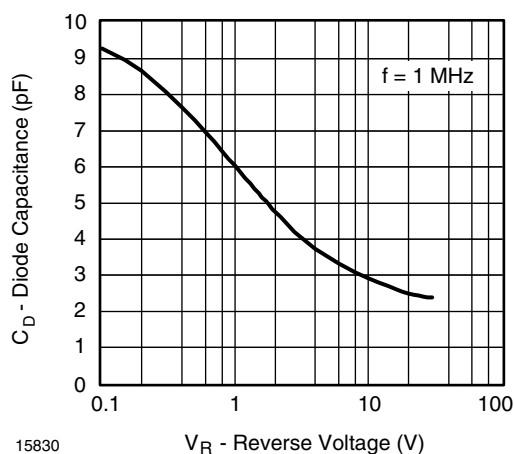
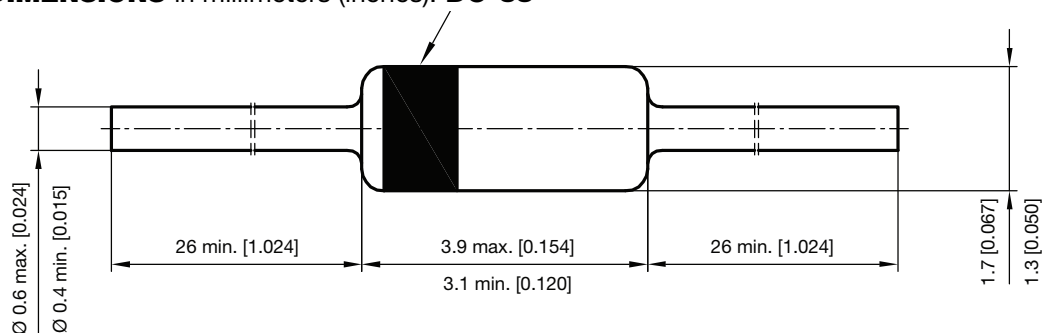


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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


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