



# 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](http://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 <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V <sub>R</sub>	50	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>	500	mA
Forward continuous current		I <sub>F</sub>	200	mA
Average forward current	PCB mounting, l = 4 mm; V <sub>RWM</sub> = 25 V, T <sub>amb</sub> = 50 °C	I <sub>FAV</sub>	200	mA

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	l = 4 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	320	K/W
Junction temperature		T <sub>j</sub>	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
Forward voltage	I <sub>F</sub> = 0.1 mA	V <sub>F</sub>			300	mV
	I <sub>F</sub> = 1 mA	V <sub>F</sub>			380	mV
	I <sub>F</sub> = 10 mA	V <sub>F</sub>			450	mV
	I <sub>F</sub> = 30 mA	V <sub>F</sub>			600	mV
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			900	mV
Reverse current	V <sub>R</sub> = 40 V	I <sub>R</sub>			5	µA
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			8	pF

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

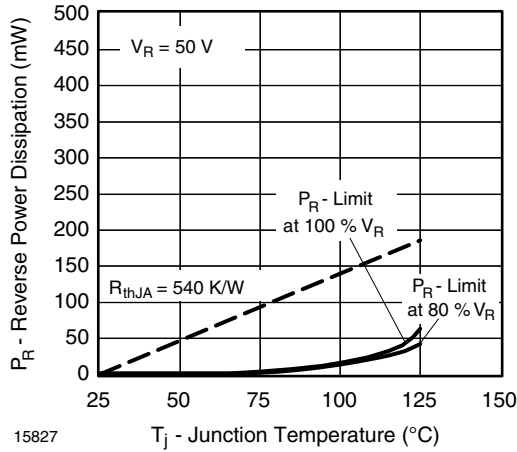


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

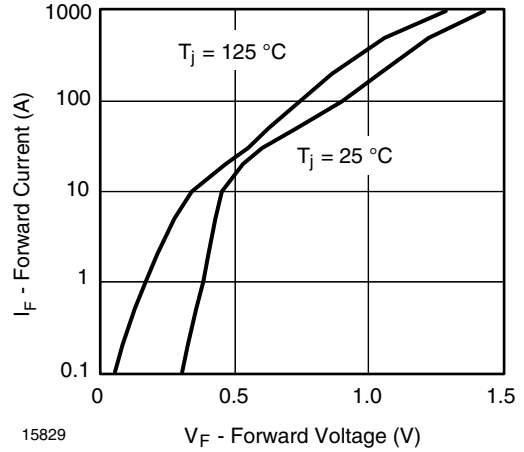


Fig. 3 - Forward Current vs. Forward Voltage

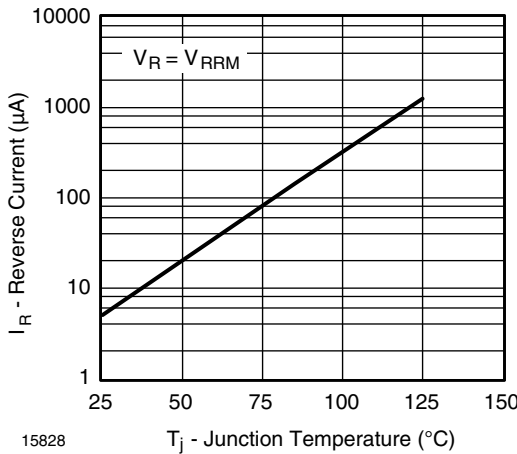


Fig. 2 - Reverse Current vs. Junction Temperature

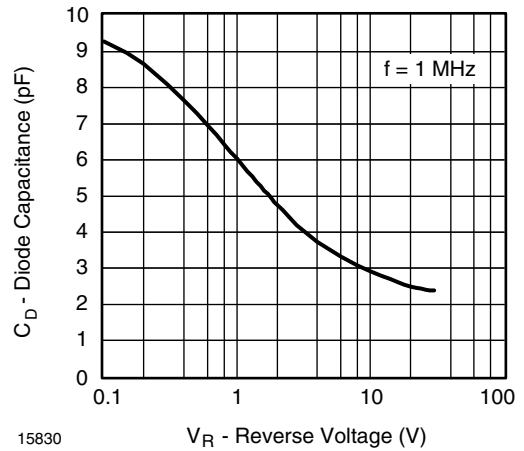
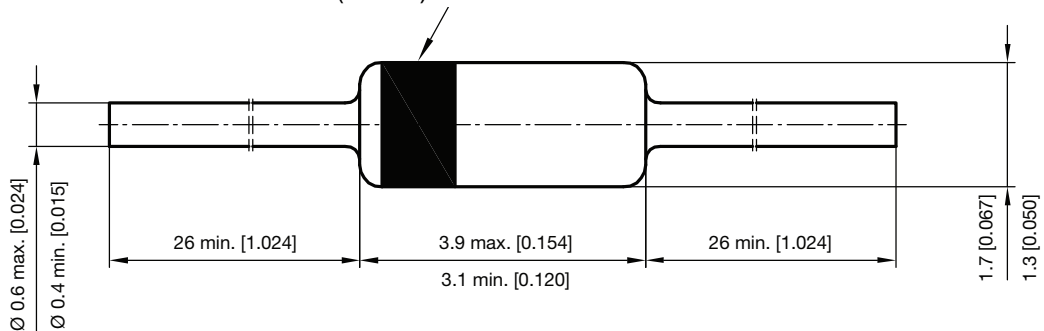


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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



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