

Vishay Semiconductors

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 ammopack (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/ammopack

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Reverse voltage		V _R	50	V	
Peak forward surge current	t _p ≤ 10 ms	I _{FSM}	5	A	
Repetitive peak forward current	t _p ≤ 1 s	I _{FRM}	500	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}	320	K/W	
Junction temperature		Tj	125	°C	
Storage temperature range		T _{stg}	- 65 to + 150	°C	

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	$I_F = 0.1 \text{ mA}$	V _F			300	mV
	I _F = 1 mA	V_{F}			380	mV
Forward voltage	I _F = 10 mA	V _F			450	mV
	I _F = 30 mA	V _F			600	mV
	I _F = 100 mA	V_{F}			900	mV
Reserve current	V _R = 40 V	I _R			5	μA
Diode capacitance	V _R = 1 V, f = 1 MHz	C _D			8	pF



TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

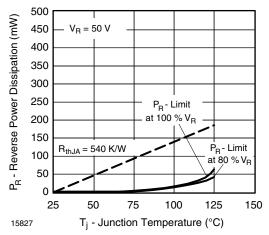


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

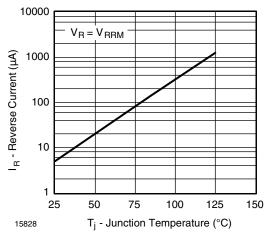


Fig. 2 - Reverse Current vs. Junction Temperature

PACKAGE DIMENSIONS in millimeters (inches): DO-35

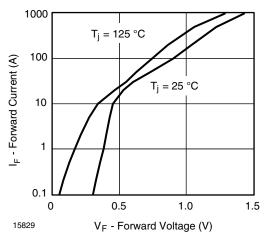


Fig. 3 - Forward Current vs. Forward Voltage

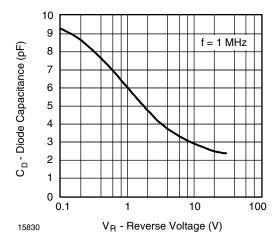
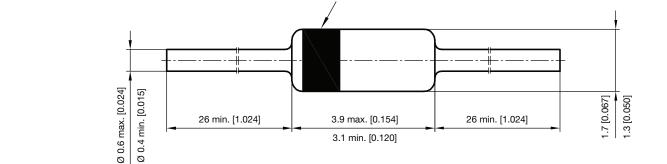


Fig. 4 - Diode Capacitance vs. Reverse Voltage



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3.1 min. [0.120]



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