

# Small Signal Schottky Diode



## FEATURES

- Integrated protection ring against static discharge
- Very low forward voltage
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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COMPLIANT  
HALOGEN  
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## APPLICATIONS

- Applications where a very low forward voltage is required

## MECHANICAL DATA

**Case:** DO-35 (DO-204AH)

**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

## LINKS TO ADDITIONAL RESOURCES



3D Models

## PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
BAT86S	BAT86S-TR or BAT86S-TAP	Single	BAT86S	Tape and reel/ammpack

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	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, $l = 4\text{ mm}$ ; $V_{RWM} = 25\text{ V}$ , $T_{amb} = 50^{\circ}\text{C}$	$I_{FAV}$	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	$l = 4\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	320	K/W
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25^{\circ}\text{C}$ , 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	$\mu\text{A}$
Diode capacitance	$V_R = 1\text{ V}$ , $f = 1\text{ MHz}$	$C_D$			8	pF

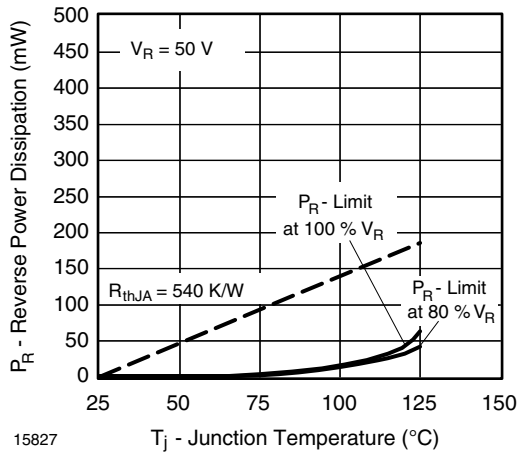
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

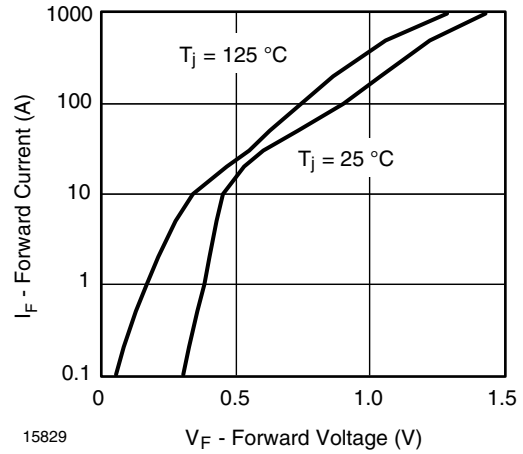


Fig. 3 - Forward Current vs. Forward Voltage

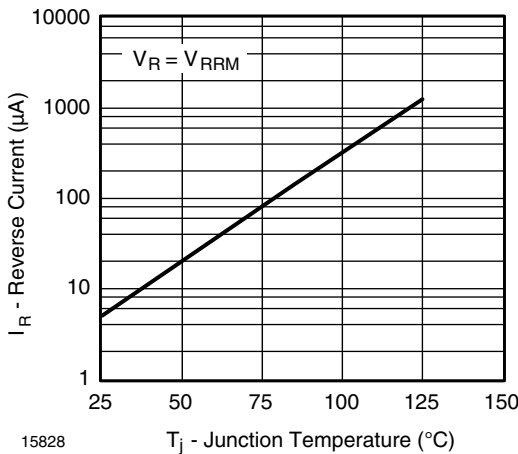


Fig. 2 - Reverse Current vs. Junction Temperature

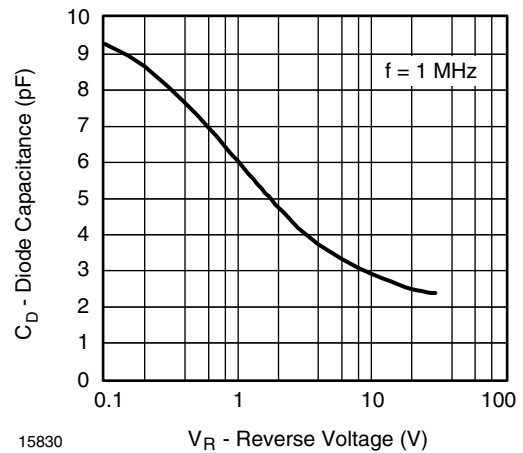
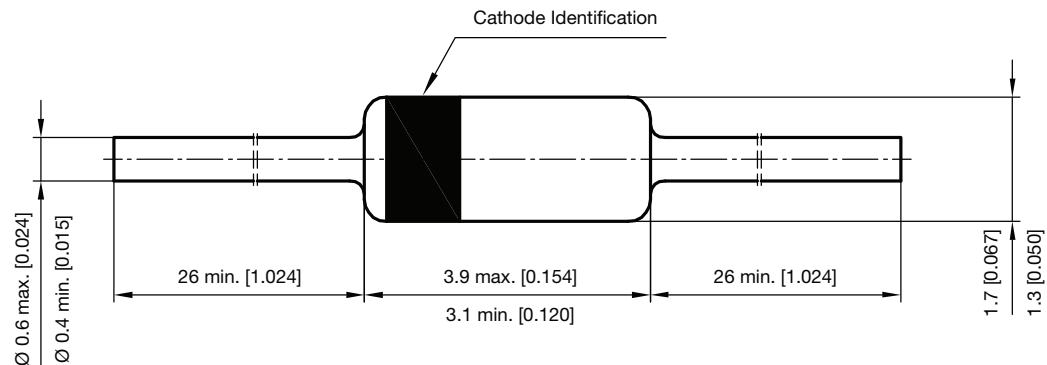


Fig. 4 - Diode Capacitance vs. Reverse Voltage

**PACKAGE DIMENSIONS** in millimeters (inches): **DO-35 (DO-204AH)**


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