

## Vishay Semiconductors

# **Small Signal Switching Diodes**



#### **FEATURES**

- Silicon planar diodes
- Very low reverse current
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912





COMPLIANT HALOGEN FREE

#### **APPLICATIONS**

 Protection circuits, time delay circuits, peak follower circuits, logarithmic amplifiers

### **LINKS TO ADDITIONAL RESOURCES**



#### **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 ammopack (52 mm tape), 50K/box

PARTS TABLE							
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS		
BAS33	V <sub>RRM</sub> = 40 V	BAS33-TAP or BAS33-TR	BAS33	Single	Tape and reel / ammopack		
BAS34	V <sub>RRM</sub> = 70 V	BAS34-TAP or BAS34-TR	BAS34	Single	Tape and reel / ammopack		

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
Depotitive peak reverse valtage		BAS33	$V_{RRM}$	40	V	
Repetitive peak reverse voltage		BAS34	V <sub>RRM</sub>	70	V	
Payaraa yaltaga		BAS33	V <sub>R</sub>	30	V	
Reverse voltage		BAS34	$V_R$	60	V	
Peak forward surge current	t <sub>p</sub> = 1 μs		I <sub>FSM</sub>	2	А	
Forward continuous current			I <sub>F</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	I = 4 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	350	K/W		
Junction temperature		Tj	175	°C		
Storage temperature range		T <sub>stg</sub>	-65 to +175	°C		



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 100 mA		V <sub>F</sub>			1	V
	E ≤ 300 lx, V <sub>R</sub>		I <sub>R</sub>		1	3	nA
Reverse current	$E \le 300 \text{ Ix, } V_R, T_j = 125 ^{\circ}\text{C}$		I <sub>R</sub>			0.5	μA
Reverse current	E ≤ 300 lx, V <sub>R</sub> = 15 V	BAS33	I <sub>R</sub>		0.5	1	nA
	$E \le 300 Ix, V_R = 30 V$	BAS34	I <sub>R</sub>		0.5	1	nA
Dreekdeum veltere	$I_R = 5 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	BAS33	V <sub>(BR)</sub>	40			V
Breakdown voltage		BAS34	V <sub>(BR)</sub>	70			V
Diode capacitance	$V_R = 0 V$ , $f = 1 MHz$ ,		C <sub>D</sub>			3	pF

### TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

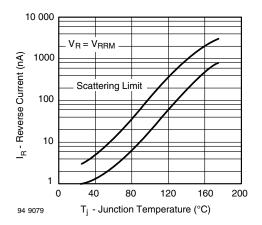


Fig. 1 - Reverse Current vs. Junction Temperature

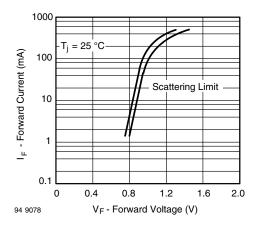
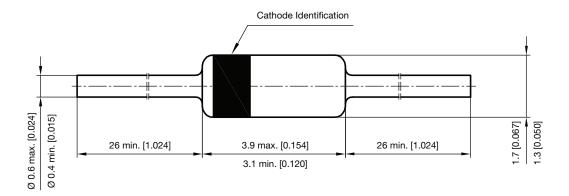


Fig. 2 - Forward Current vs. Forward Voltage

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



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