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Vishay Semiconductors

Small Signal Switching Diodes, High Voltage



FEATURES

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



(e2)

ROHS COMPLIANT HALOGEN FREE

APPLICATIONS

General purposes

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		
BAV17	V _{RRM} = 25 V	BAV17-TR or BAV17-TAP	BAV17	Single	Tape and reel / ammopack		
BAV18	V _{RRM} = 60 V	BAV18-TR or BAV18-TAP	BAV18	Single	Tape and reel / ammopack		
BAV19	V _{RRM} = 120 V	BAV19-TR or BAV19-TAP	BAV19	Single	Tape and reel / ammopack		
BAV20	V _{RRM} = 200 V	BAV20-TR or BAV20-TAP	BAV20	Single	Tape and reel / ammopack		
BAV21	V _{RRM} = 250 V	BAV21-TR or BAV21-TAP	BAV21	Single	Tape and reel / ammopack		

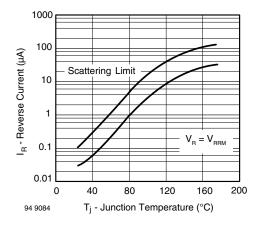
ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		BAV17	V_{RRM}	25	V	
		BAV18	V_{RRM}	60	V	
Repetitive peak reverse voltage		BAV19	V_{RRM}	120	V	
		BAV20	V_{RRM}	200	V	
		BAV21	V_{RRM}	250	V	
		BAV17	V_{R}	20	V	
		BAV18	V_{R}	50	V	
Reverse voltage		BAV19	V_{R}	100	V	
		BAV20	V_{R}	150	V	
		BAV21	V_{R}	200	V	
Forward continuous current			I _F	250	mA	
Peak forward surge current	$t_p = 1 \text{ s, } T_j = 25 \text{ °C}$		I _{FSM}	1	Α	
Forward peak current	f = 50 Hz		I _{FRM}	625	mA	
Power dissipation			P _{tot}	500	mW	

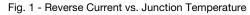
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THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION SYMBOL		VALUE	UNIT		
Thermal resistance junction to ambient air	I = 4 mm, T _L = constant	R _{thJA}	300	K/W		
Junction temperature		Tj	175	°C		
Storage temperature range		T _{stg}	-65 to +175	°C		

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 100 mA		V_{F}			1	V
	V _R = 20 V	BAV17	I _R			100	nA
	V _R = 50 V	BAV18	I _R			100	nA
	V _R = 100 V	BAV19	I _R			100	nA
	V _R = 150 V	BAV20	I _R			100	nA
Reverse current	V _R = 200 V	BAV21	I _R			100	nA
Reverse current	$T_j = 100 ^{\circ}\text{C}, V_R = 20 \text{V}$	BAV17	I _R			15	μA
	$T_j = 100 ^{\circ}\text{C}, V_R = 50 \text{V}$	BAV18	I _R			15	μΑ
	T _j = 100 °C, V _R = 100 V	BAV19	I _R			15	μΑ
	T _j = 100 °C, V _R = 150 V	BAV20	I _R			15	μΑ
	$T_j = 100 ^{\circ}\text{C}, V_R = 200 \text{V}$	BAV21	I _R			15	μΑ
	$I_R = 5 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	BAV17	V _(BR)	25			V
		BAV18	V _(BR)	60			V
Breakdown voltage		BAV19	V _(BR)	120			V
		BAV20	V _(BR)	200			V
		BAV21	V _(BR)	250			V
Diode capacitance	$V_R = 0 V, f = 1 MHz,$		C _D		1.5		pF
Differential forward resistance	I _F = 10 mA		r _f		5		Ω
Reverse recovery time	$I_F = I_R = 30 \text{ mA}, i_R = 3 \text{ mA}$ $R_L = 100 \Omega$		t _{rr}			50	ns

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





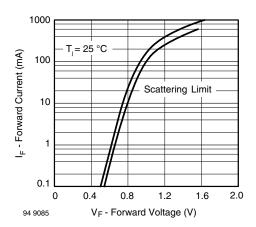


Fig. 2 - Forward Current vs. Forward Voltage

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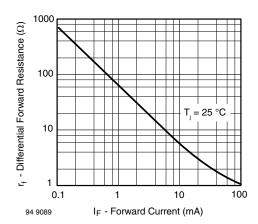
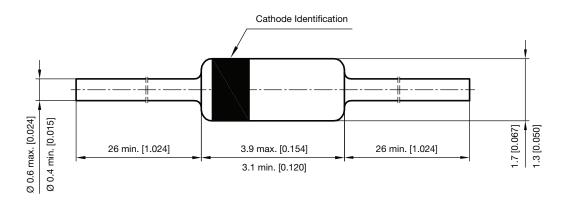


Fig. 3 - Differential Forward Resistance vs. Forward Current

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



Rev. 6 - Date: 19. December 2011 Document no.: SB-V-3906.04-031(4)

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