

## Small Signal Switching Diodes, High Voltage

### Features

- Silicon Epitaxial Planar Diodes
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



94 9367

### Applications

- General purposes

### Mechanical Data

**Case:** DO35 Glass case

**Weight:** approx. 125 mg

**Cathode Band Color:** black

**Packaging Codes/Options:**

TR/10 k per 13" reel (52 mm tape), 50 k/box

TAP/10 k per Ammopack (52 mm tape), 50 k/box

### Parts Table

Part	Type differentiation	Ordering code	Type Marking	Remarks
BAV17	$V_{RRM} = 25\text{ V}$	BAV17-TR or BAV17-TAP	BAV17	Tape and Reel/Ammopack
BAV18	$V_{RRM} = 60\text{ V}$	BAV18-TR or BAV18-TAP	BAV18	Tape and Reel/Ammopack
BAV19	$V_{RRM} = 120\text{ V}$	BAV19-TR or BAV19-TAP	BAV19	Tape and Reel/Ammopack
BAV20	$V_{RRM} = 200\text{ V}$	BAV20-TR or BAV20-TAP	BAV20	Tape and Reel/Ammopack
BAV21	$V_{RRM} = 250\text{ V}$	BAV21-TR or BAV21-TAP	BAV21	Tape and Reel/Ammopack

### Absolute Maximum Ratings

$T_{amb} = 25\text{ °C}$ , unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage		BAV17	$V_{RRM}$	25	V
		BAV18	$V_{RRM}$	60	V
		BAV19	$V_{RRM}$	120	V
		BAV20	$V_{RRM}$	200	V
		BAV21	$V_{RRM}$	250	V
Reverse voltage		BAV17	$V_R$	20	V
		BAV18	$V_R$	50	V
		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	A
Forward peak current	$f = 50\text{ Hz}$		$I_{FRM}$	625	mA
Power dissipation			$P_{tot}$	500	mW

## Vishay Semiconductors

### Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction to ambient air	$l = 4\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	300	K/W
Junction temperature		$T_j$	175	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 175	$^{\circ}\text{C}$

### Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 100\text{ mA}$		$V_F$			1000	mV
Reverse current	$V_R = 20\text{ V}$	BAV17	$I_R$			100	nA
	$V_R = 50\text{ V}$	BAV18	$I_R$			100	nA
	$V_R = 100\text{ V}$	BAV19	$I_R$			100	nA
	$V_R = 150\text{ V}$	BAV20	$I_R$			100	nA
	$V_R = 200\text{ V}$	BAV21	$I_R$			100	nA
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 20\text{ V}$	BAV17	$I_R$			15	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 50\text{ V}$	BAV18	$I_R$			15	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 100\text{ V}$	BAV19	$I_R$			15	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 150\text{ V}$	BAV20	$I_R$			15	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 200\text{ V}$	BAV21	$I_R$			15	$\mu\text{A}$
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ , $t_p/T = 0.01$ , $t_p = 0.3\text{ ms}$	BAV17	$V_{(BR)}$	25			V
		BAV18	$V_{(BR)}$	60			V
		BAV19	$V_{(BR)}$	120			V
		BAV20	$V_{(BR)}$	200			V
		BAV21	$V_{(BR)}$	250			V
Diode capacitance	$V_R = 0$ , $f = 1\text{ MHz}$		$C_D$		1.5		pF
Differential forward resistance	$I_F = 10\text{ mA}$		$r_f$		5		$\Omega$
Reverse recovery time	$I_F = I_R = 30\text{ mA}$ , $i_R = 3\text{ mA}$ , $R_L = 100\text{ }\Omega$		$t_{rr}$			50	ns

## Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified

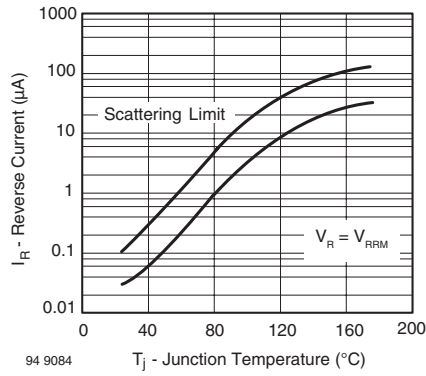


Figure 1. Reverse Current vs. Junction Temperature

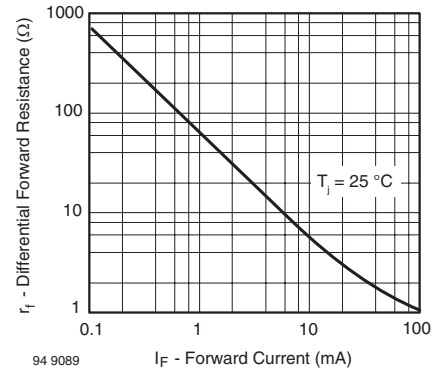


Figure 3. Differential Forward Resistance vs. Forward Current

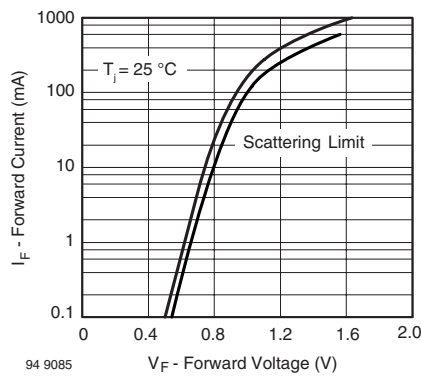


Figure 2. Forward Current vs. Forward Voltage

## Package Dimensions in millimeters (inches): DO35

