Small Signal Switching Diodes, High Voltage

FEATURES

- Silicon epitaxial planar diodes
- AEC-Q101 qualified
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE

APPLICATIONS

- General purposes

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	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAV17	V_{RRM} = 25 V	BAV17-TR or BAV17-TAP	BAV17	Single diode	Tape and reel/ammopack
BAV18	V_{RRM} = 60 V	BAV18-TR or BAV18-TAP	BAV18	Single diode	Tape and reel/ammopack
BAV19	V_{RRM} = 120 V	BAV19-TR or BAV19-TAP	BAV19	Single diode	Tape and reel/ammopack
BAV20	V_{RRM} = 200 V	BAV20-TR or BAV20-TAP	BAV20	Single diode	Tape and reel/ammopack
BAV21	V_{RRM} = 250 V	BAV21-TR or BAV21-TAP	BAV21	Single diode	Tape and reel/ammopack

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitve 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 s, T_j = 25 °C		I_{FSM}	1	A
Forward peak current	f = 50 Hz		I_{FRM}	625	mA
Power dissipation			P_{tot}	500	mW

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Thermal resistance junction to ambient air	l = 4 mm, T_L = constant	R_{thJA}	300	K/W
Junction temperature		T_j	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			1000	mV
Reverse current	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
	V_R = 200 V	BAV21	I_R			100	nA
	T_j = 100 °C, V_R = 20 V	BAV17	I_R			15	µA
	T_j = 100 °C, V_R = 50 V	BAV18	I_R			15	µA
	T_j = 100 °C, V_R = 100 V	BAV19	I_R			15	µA
	T_j = 100 °C, V_R = 150 V	BAV20	I_R			15	µA
	T_j = 100 °C, V_R = 200 V	BAV21	I_R			15	µA
Breakdown voltage	I_R = 5 µA, t_p/T = 0.01, t_p = 0.3 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 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 mA, i_R = 3 mA R_L = 100 Ω		t_{rr}			50	ns

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

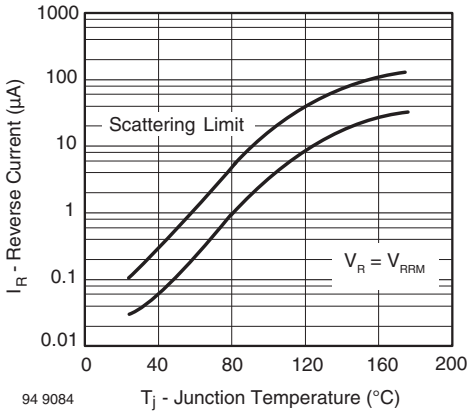


Fig. 1 - Reverse Current vs. Junction Temperature

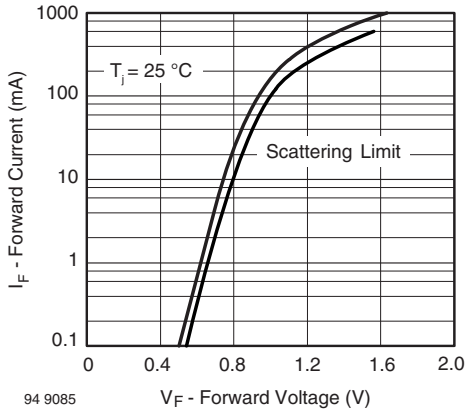


Fig. 2 - Forward Current vs. Forward Voltage

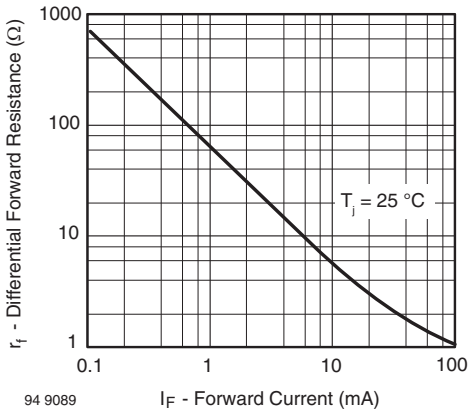
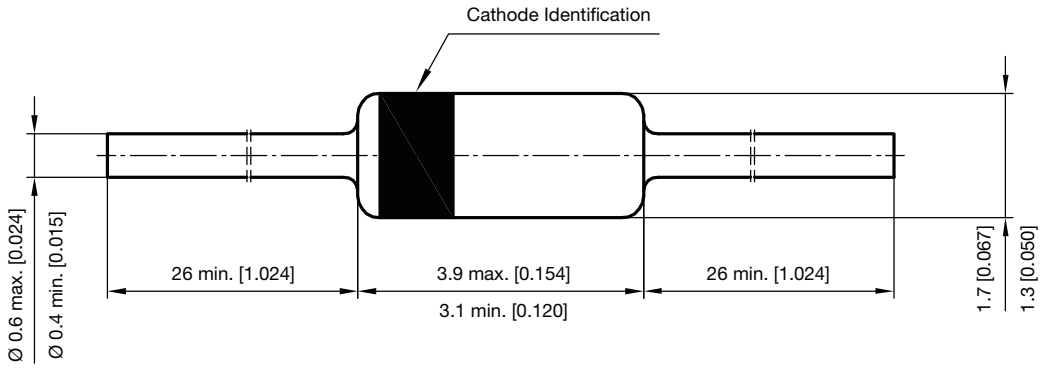


Fig. 3 - Differential Forward Resistance vs. Forward Current

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



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