



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 ammpack (52 mm tape), 50K/box

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

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive 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	$t_p = 1\text{ s}, T_j = 25\text{ }^{\circ}\text{C}$		I_{FSM}	1	A
Forward peak current	$f = 50\text{ Hz}$		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)

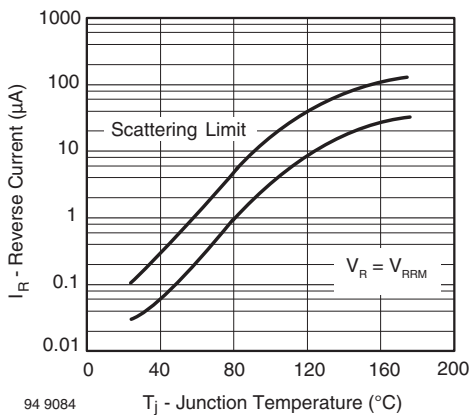


Fig. 1 - Reverse Current vs. Junction Temperature

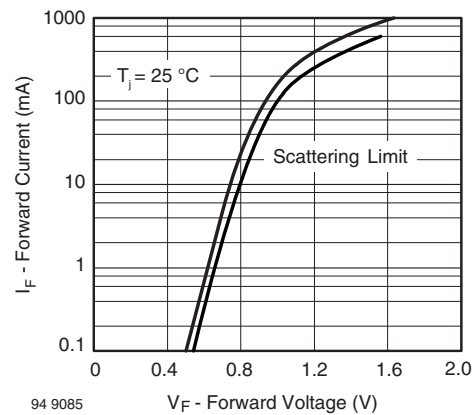
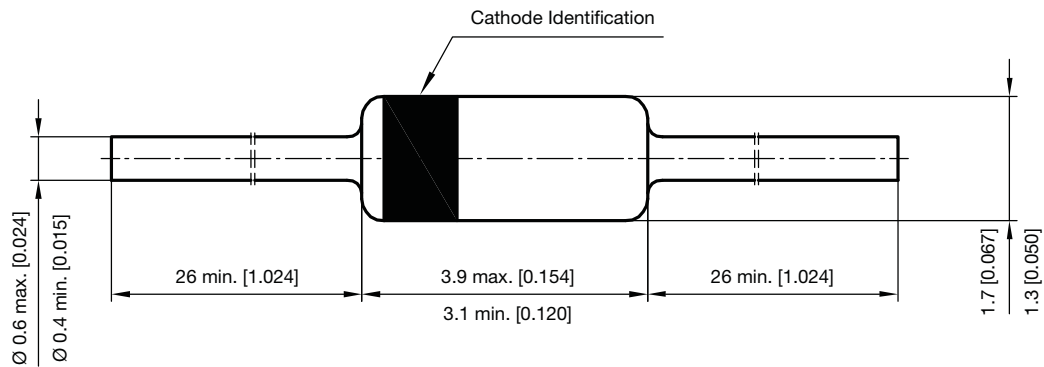


Fig. 2 - Forward Current vs. Forward Voltage



Fig. 3 - Differential Forward Resistance vs. Forward Current

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



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