

Small Signal Switching Diode, High Voltage



FEATURES

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



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- General purpose

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	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
BAY80	BAY80-TR or BAY80-TAP	BAY80	Single diode	Tape and reel/ammpack

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V_{RRM}	150	V
Reverse voltage		V_R	120	V
Peak forward surge current	$t_p = 1 \mu\text{s}$	I_{FSM}	1	A
Repetitive peak forward current		I_{FRM}	625	mA
Forward continuous current		I_F	250	mA
Average forward current		$I_{F(AV)}$	200	mA

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	$l = 4 \text{ mm}$, $T_L = \text{constant}$	R_{thJA}	350	K/W
Junction to ambient air		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	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 0.1\text{ mA}$	V_F	0.400		0.520	V
	$I_F = 10\text{ mA}$	V_F	0.630		0.780	V
	$I_F = 50\text{ mA}$	V_F	0.730		0.920	V
	$I_F = 100\text{ mA}$	V_F	0.780		1	V
	$I_F = 150\text{ mA}$	V_F			1.070	V
Reverse current	$V_R = 120\text{ V}$	I_R			100	nA
	$V_R = 120\text{ V}$, $T_j = 150\text{ }^{\circ}\text{C}$	I_R			100	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	$V_{(BR)}$	150			V
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_D		1.5	5	pF
Differential forward resistance	$I_F = 10\text{ mA}$	r_f		5		Ω
Reverse recovery time	$I_F = I_R = 30\text{ mA}$, $i_R = 3\text{ mA}$, $R_L = 100\text{ }\Omega$	t_{rr}			50	ns

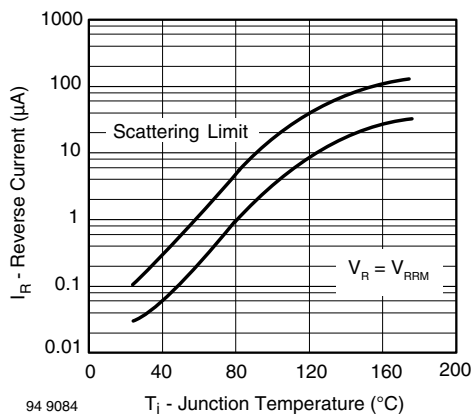
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

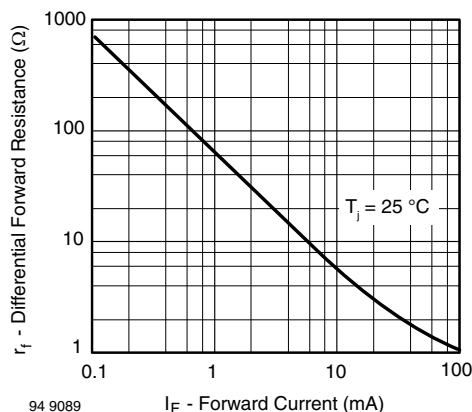


Fig. 3 - Differential Forward Resistance vs. Forward Current

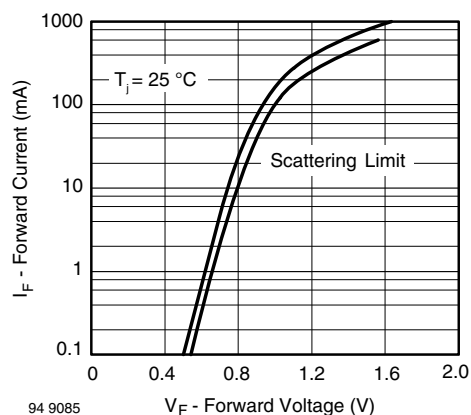
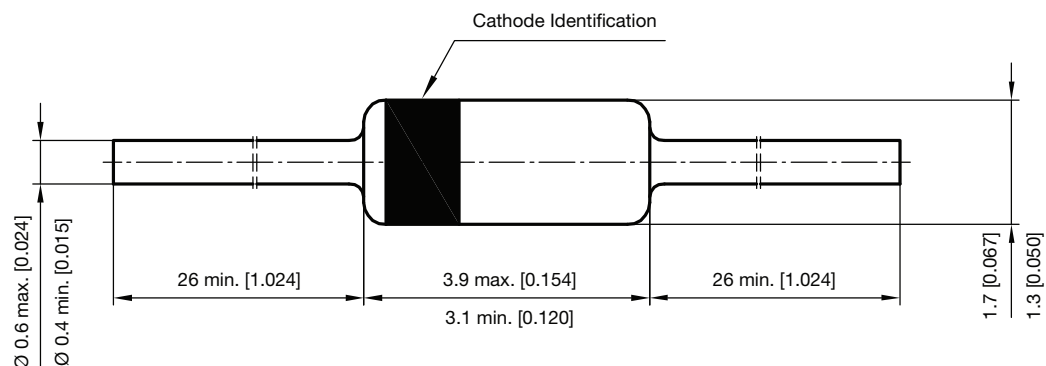


Fig. 2 - Forward Current vs. Forward Voltage

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



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