

## Small Signal Fast Switching Diodes



### FEATURES

- Silicon epitaxial planar diode
- Low forward voltage drop
- High forward current capability
- Material categorization:  
for definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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### APPLICATIONS

- High speed switch and general purpose use in computer and industrial applications

### 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 ammpack (52 mm tape), 50K/box

### PARTS TABLE

PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
1N4150	1N4150TR or 1N4150TAP	1N4150	Single	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		$V_{RRM}$	50	V
Reverse voltage		$V_R$	50	V
Peak forward surge current	$t_p = 1 \mu\text{s}$	$I_{FSM}$	4	A
Average peak forward current		$I_{FRM}$	600	mA
Forward continuous current		$I_F$	300	mA
Average forward current	$V_R = 0$	$I_{F(AV)}$	150	mA
Power dissipation	$l = 4 \text{ mm}, T_L = 45^{\circ}\text{C}$	$P_{tot}$	440	mW
	$l = 4 \text{ mm}, T_L \leq 25^{\circ}\text{C}$	$P_{tot}$	500	mW

### 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 temperature		$T_J$	175	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +175	$^{\circ}\text{C}$

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ mA}$	$V_F$	0.540		0.620	V
	$I_F = 10\text{ mA}$	$V_F$	0.660		0.740	V
	$I_F = 50\text{ mA}$	$V_F$	0.760		0.860	V
	$I_F = 100\text{ mA}$	$V_F$	0.820		0.920	V
	$I_F = 200\text{ mA}$	$V_F$	0.870		1	V
Reverse current	$V_R = 50\text{ V}$	$I_R$			100	nA
	$V_R = 50\text{ V}$ , $T_J = 150\text{ }^{\circ}\text{C}$	$I_R$			100	$\mu\text{A}$
Diode capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ , $V_{HF} = 50\text{ mV}$	$C_D$			2.5	pF
Reverse recovery time	$I_F = I_R = (10\text{ to }100)\text{ mA}$ , $i_R = 0.1 \times I_R$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			4	ns

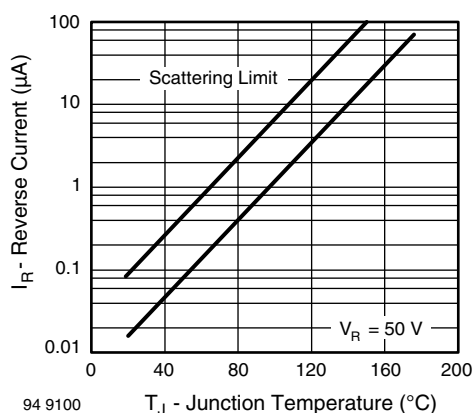
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

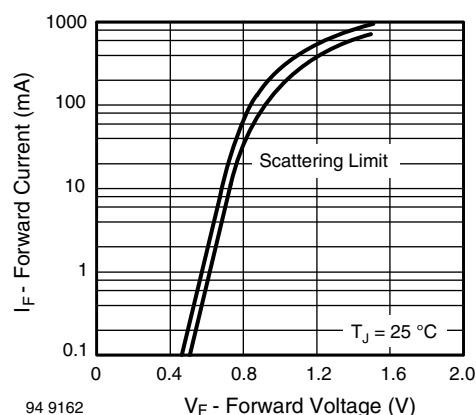
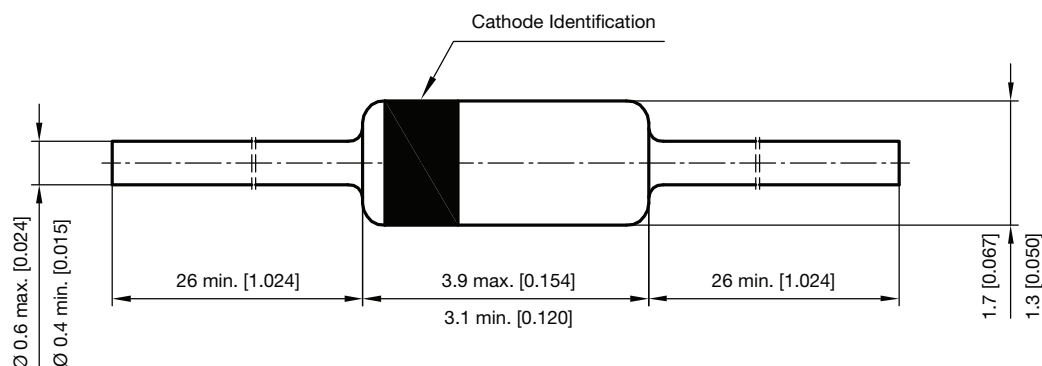


Fig. 2 - Forward Current vs. Forward Voltage

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


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