

## Vishay Semiconductors

# **Small Signal Fast Switching Diodes**



#### **FEATURES**

- · Fast switching speed
- · High reliability
- High conductance
- For general purpose switching applications
- AEC-Q101 qualified
- Material categorization:
   For definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>





ROHS COMPLIANT HALOGEN FREE

#### **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	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS		
1N914	1N914TR or 1N914TAP	1N914	Single diode	Tape and reel/ammopack		

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Repetitive peak reverse voltage		$V_{RRM}$	100	V	
Working peak reverse voltage		$V_{RWM}$	75	V	
DC blocking voltage		$V_{R}$	75	V	
RMS Reverse voltage		V <sub>R(RMS)</sub>	53	V	
Forward continuous current		I <sub>F</sub>	300	mA	
Average rectified current	Half wave rectification with resistive load and f > 50 MHz	I <sub>F(AV)</sub>	200	mA	
Non-venetitive peak familiard alives alivest	t = 1 s	I <sub>FSM</sub>	1	Α	
Non repetitive peak forward surge current	t = 1 μs	t = 1 μs		Α	
Power dissipation	I = 4 mm, T <sub>L</sub> = 25 °C	P <sub>tot</sub>	500	mW	

<b>THERMAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Thermal resistance junction to ambient air	I = 4 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	300	K/W		
Junction temperature		Tj	+ 175	°C		
Storage temperature range		T <sub>stg</sub>	- 65 to + 175	°C		



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>			1	V
Breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>(BR)</sub>	100			V
	V <sub>R</sub> = 75 V	I <sub>R</sub>			5	μΑ
Peak reverse current	V <sub>R</sub> = 20 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			50	μΑ
	V <sub>R</sub> = 20 V	I <sub>R</sub>			25	nA
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz	C <sub>D</sub>			4	pF
Reverse recovery time	$I_F = 10 \text{ mA, } i_R = 1 \text{ mA,}$ $V_R = 6 \text{ V, } R_L = 100 \Omega$	t <sub>rr</sub>			4	ns

### **TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

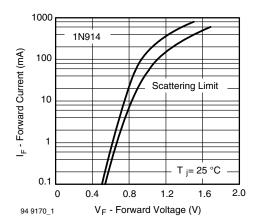


Fig. 1 - Forward Current vs. Forward Voltage

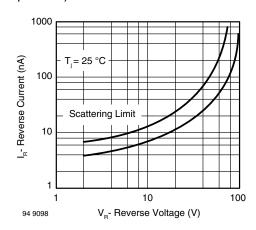
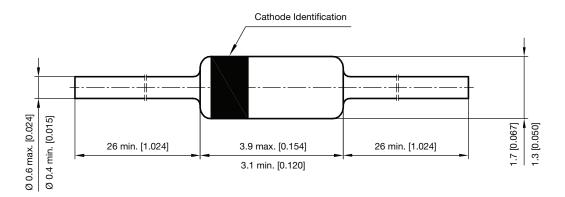


Fig. 2 - Reverse Current vs. Reverse Voltage

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



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