

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 www.vishay.com/doc?99912



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 ammpack (52 mm tape), 50K/box

PARTS TABLE

PART	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
1N914	1N914-TR or 1N914-TAP	1N914	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}	100	V
Working peak reverse voltage		V_{RWM}	75	V
DC blocking voltage		V_R	75	V
RMS Reverse voltage		$V_{R(RMS)}$	53	V
Forward continuous current		I_F	300	mA
Average rectified current	Half wave rectification with resistive load and $f > 50\text{ MHz}$	$I_{F(AV)}$	200	mA
Non repetitive peak forward surge current	$t = 1\text{ s}$	I_{FSM}	1	A
	$t = 1\text{ }\mu\text{s}$	I_{FSM}	4	A
Power dissipation	$l = 4\text{ mm}$, $T_L = 25^{\circ}\text{C}$	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}	300	K/W
Junction temperature		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	$I_F = 10\text{ mA}$	V_F			1000	mV
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$	$V_{(BR)}$	100			V
Peak reverse current	$V_R = 75\text{ V}$	I_R			5	μA
	$V_R = 20\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
	$V_R = 20\text{ V}$	I_R			25	nA
Diode capacitance	$V_R = 0, f = 1\text{ MHz}$	C_D			4	pF
Reverse recovery time	$I_F = 10\text{ mA}, I_R = 1\text{ mA}, V_R = 6\text{ V}, R_L = 100\text{ }\Omega$	t_{rr}			4	ns

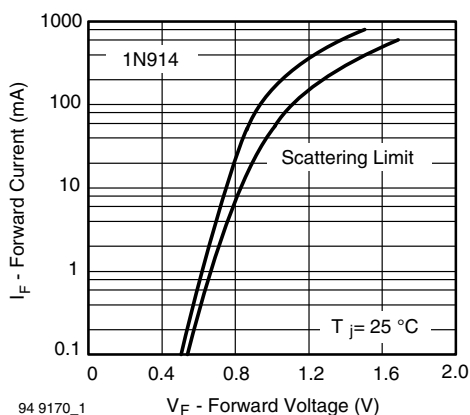
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Current vs. Forward Voltage

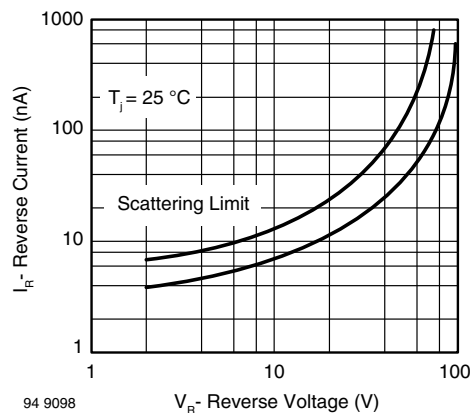
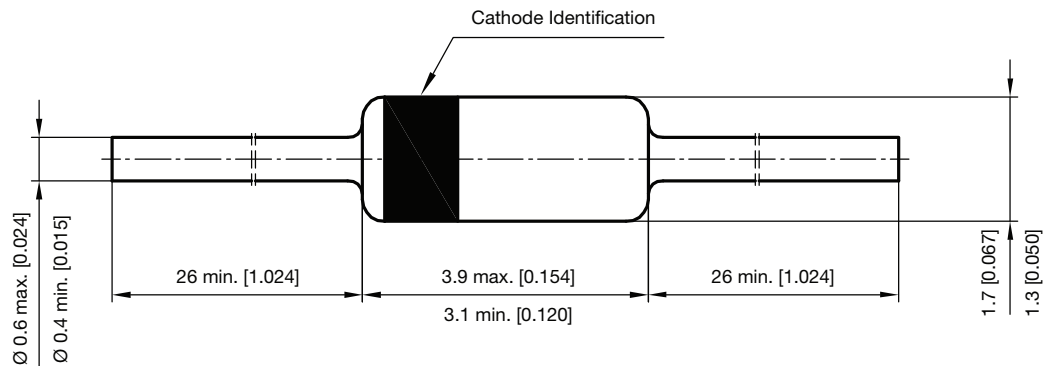


Fig. 2 - Reverse Current vs. Reverse Voltage

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


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