

## 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 [www.vishay.com/doc?99912](http://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 | 1N914TR or 1N914TAP | 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 | $^{\circ}\text{C}$ |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                                                                                         |            |      |      |      |               |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------|------|------|------|---------------|
| PARAMETER                                                                                                | TEST CONDITION                                                                          | SYMBOL     | MIN. | TYP. | MAX. | UNIT          |
| Forward voltage                                                                                          | $I_F = 10\text{ mA}$                                                                    | $V_F$      |      |      | 1    | V             |
| Breakdown voltage                                                                                        | $I_R = 100\text{ }\mu\text{A}$                                                          | $V_{(BR)}$ | 100  |      |      | V             |
| Peak reverse current                                                                                     | $V_R = 75\text{ V}$                                                                     | $I_R$      |      |      | 5    | $\mu\text{A}$ |
|                                                                                                          | $V_R = 20\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$                                  | $I_R$      |      |      | 50   | $\mu\text{A}$ |
|                                                                                                          | $V_R = 20\text{ V}$                                                                     | $I_R$      |      |      | 25   | nA            |
| Diode capacitance                                                                                        | $V_R = 0, f = 1\text{ MHz}$                                                             | $C_D$      |      |      | 4    | pF            |
| Reverse recovery time                                                                                    | $I_F = 10\text{ mA}, i_R = 1\text{ mA},$<br>$V_R = 6\text{ V}, R_L = 100\text{ }\Omega$ | $t_{rr}$   |      |      | 4    | ns            |

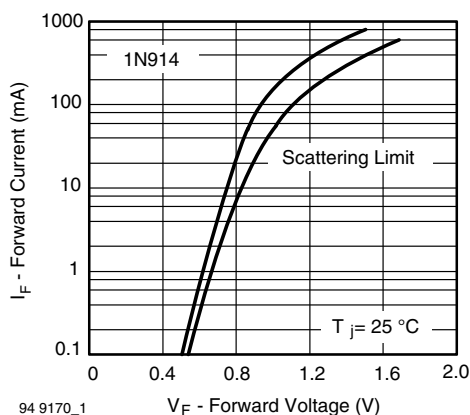
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Forward Current vs. Forward Voltage

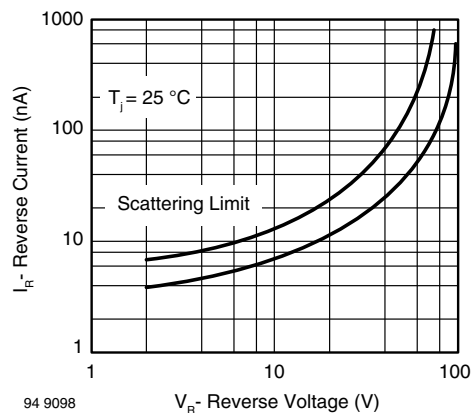
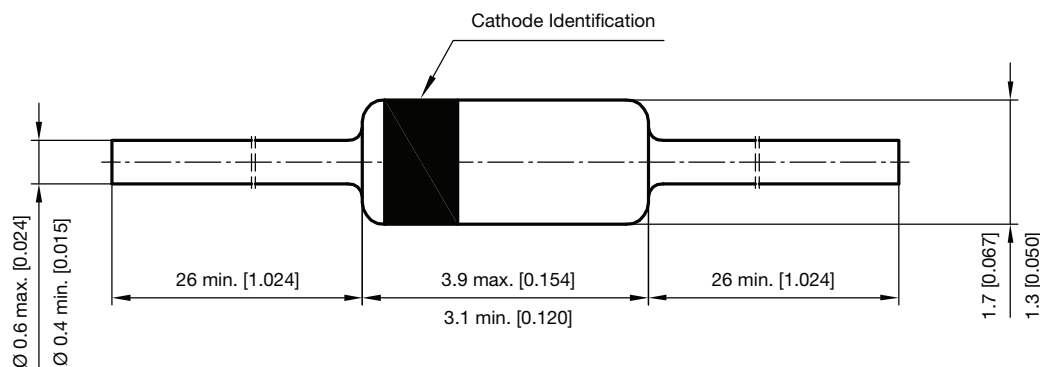


Fig. 2 - Reverse Current vs. Reverse Voltage

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


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