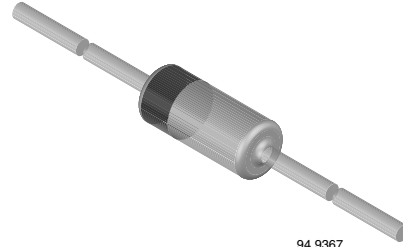


## Fast Switching Diodes

### Features

- Fast switching speed
- High reliability
- High conductance
- For general purpose switching applications
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



94 9367

### Mechanical Data

**Case:** DO35 Glass case

**Weight:** approx. 125 mg

**Cathode Band Color:** black

**Packaging codes/options:**

TR/10 k per 13" reel (52 mm tape), 50 k/box

TAP/10 k per Ammpack (52 mm tape), 50 k/box

### Parts Table

| Part  | Ordering code         | Type Marking | Remarks               |
|-------|-----------------------|--------------|-----------------------|
| 1N914 | 1N914-TR or 1N914-TAP | 1N914        | Tape and Reel/Ammpack |

### Absolute Maximum Ratings

T<sub>amb</sub> = 25 °C, unless otherwise specified

| Parameter                                 | Test condition                                             | Symbol              | Value | Unit |
|-------------------------------------------|------------------------------------------------------------|---------------------|-------|------|
| Non repetitive peak reverse voltage       |                                                            | V <sub>RM</sub>     | 100   | V    |
| Repetitive peak reverse voltage           |                                                            | V <sub>RRM</sub>    | 75    | V    |
| Working peak reverse voltage              |                                                            | V <sub>RWM</sub>    | 75    | V    |
| DC blocking voltage                       |                                                            | V <sub>R</sub>      | 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>FAV</sub>    | 200   | mA   |
| Non repetitive peak forward surge current | t = 1s                                                     | I <sub>FSM</sub>    | 1     | A    |
|                                           | t = 1μs                                                    | I <sub>FSM</sub>    | 4     | A    |
| Power dissipation                         | l = 4 mm, T <sub>L</sub> = 25 °C                           | P <sub>tot</sub>    | 500   | mW   |

### Thermal Characteristics

T<sub>amb</sub> = 25 °C unless otherwise specified

| Parameter                                  | Test condition                      | Symbol            | Value         | Unit |
|--------------------------------------------|-------------------------------------|-------------------|---------------|------|
| Thermal resistance junction to ambient air | l = 4 mm, T <sub>L</sub> = constant | R <sub>thJA</sub> | 300           | K/W  |
| Junction temperature                       |                                     | T <sub>j</sub>    | + 175         | °C   |
| Storage temperature range                  |                                     | T <sub>stg</sub>  | - 65 to + 175 | °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    | $\mu\text{A}$ |
|                       | $V_R = 20\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$                                       | $I_R$      |     |      | 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 | $I_F = 10\text{ mA}$ to $I_R = 1\text{ mA}$ ,<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

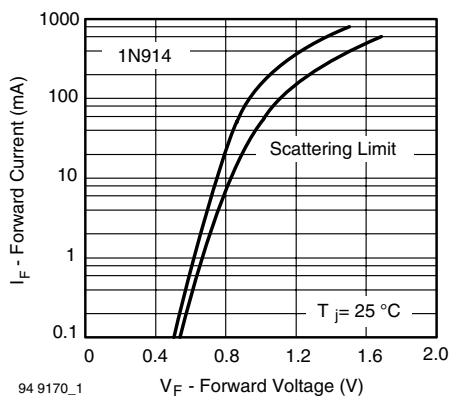


Figure 1. Forward Current vs. Forward Voltage

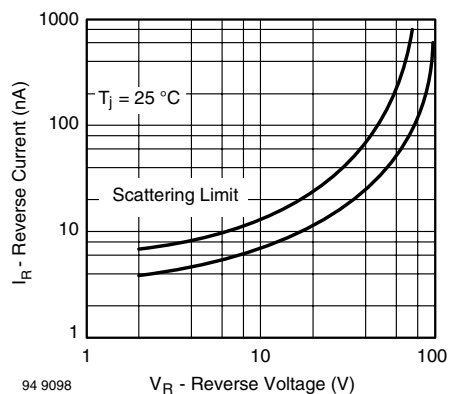
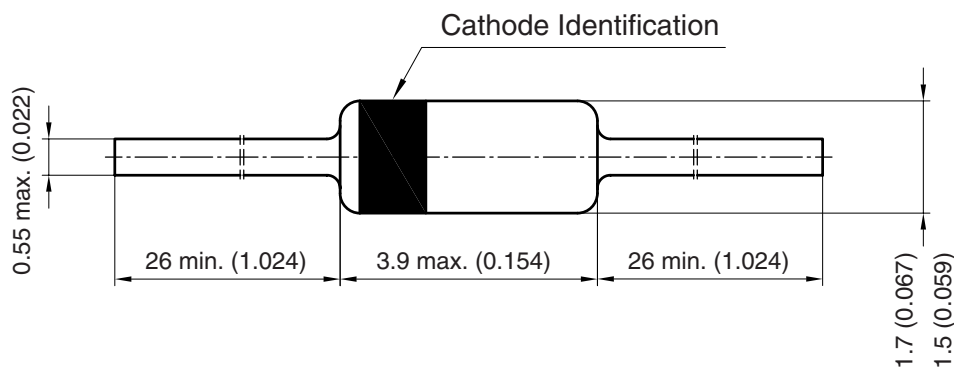


Figure 2. Reverse Current vs. Reverse Voltage

## Package Dimensions in millimeters (inches): D035



Rev. 6 - Date: 29 January 2007  
Document no.: 6.560-5004.02-4  
94 9366



## **Ozone Depleting Substances Policy Statement**

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

We reserve the right to make changes to improve technical design  
and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany



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