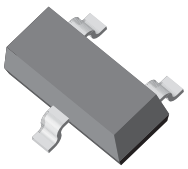
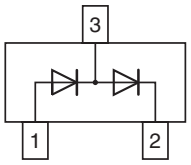
# RF PIN Diode - Dual in SOT-23

## Features

- Wide frequency range 10 MHz to 1 GHz
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



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## Applications

Current controlled HF resistance in adjustable attenuators

## Mechanical Data

**Case:** SOT-23 Plastic case

**Weight:** approx. 8.1 mg

**Packaging Codes/Options:**

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 3 k per 7" reel (8 mm tape), 15 k/box

## Parts Table

| Part | Ordering code | Marking | Remarks |
|---|---|---|---|
| S392D | S392D-GS18 or S392D-GS08 | - | Tape and Reel |

## Absolute Maximum Ratings

$T_{amb}$ = 25 °C, unless otherwise specified

| Parameter | Test condition | Symbol | Value | Unit |
|---|---|---|---|---|
| Reverse voltage | | $V_R$ | 30 | V |
| Forward current | | $I_F$ | 50 | mA |

## Thermal Characteristics

$T_{amb}$ = 25 °C, unless otherwise specified

| Parameter | Test condition | Symbol | Value | Unit |
|---|---|---|---|---|
| Junction ambient | on PC board<br>50 mm x 50 mm x 1.6 mm | $R_{thJA}$ | 500 | K/W |
| Junction temperature | | $T_j$ | 125 | °C |
| Storage temperature range | | $T_{stg}$ | - 55 to + 125 | °C |

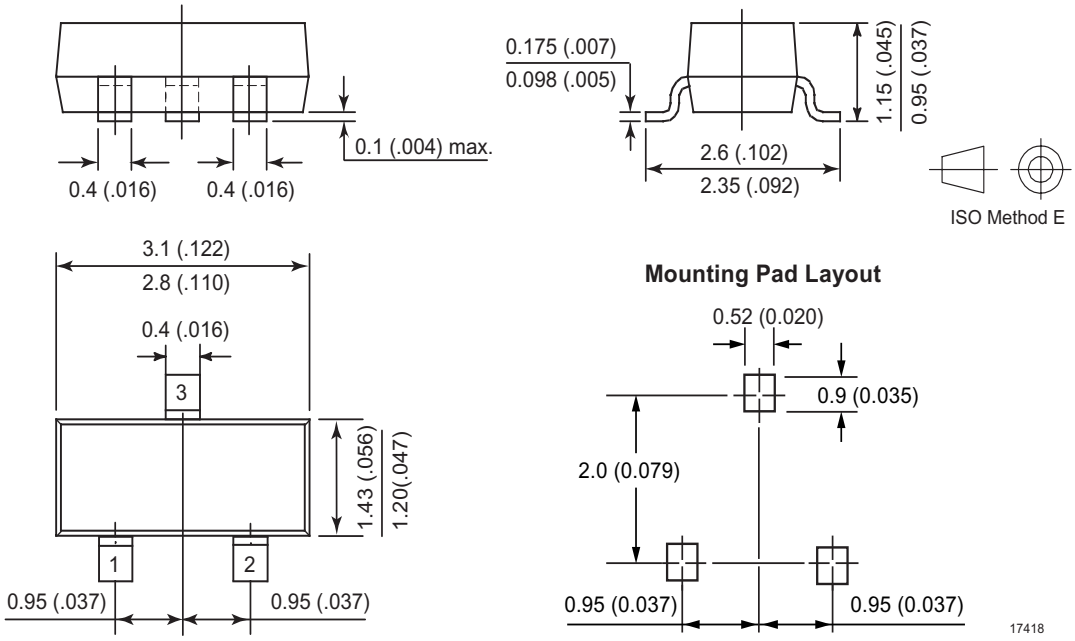
## Electrical Characteristics

$T_{amb}$ = 25 °C, unless otherwise specified

| Parameter | Test condition | Symbol | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Forward voltage | $I_F$ = 20 mA | $V_F$ | | | 1 | V |
| Reverse current | $V_R$ = 30 V | $I_R$ | | | 50 | nA |
| Diode capacitance | f = 100 MHz, $V_R$ = 0 | $C_D$ | | | 0.5 | pF |

| Parameter | Test condition | Symbol | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Differential forward resistance | f = 100 MHz, $I_F$ = 1.5 mA | $r_f$ | 40 | | 60 | Ω |
| Reverse impedance | f = 100 MHz, $V_R$ = 0 | $z_r$ | 5 | | | kΩ |
| Minority carrier lifetime | $I_F$ = 10 mA, $I_R$ = 10 mA | τ | | 4 | | µs |

## Package Dimensions in mm (Inches)



## 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.

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