

To our customers,

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## Old Company Name in Catalogs and Other Documents

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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# HVD191

## Silicon Epitaxial Planar Pin Diode for High Frequency Attenuator

REJ03G0015-0200

Rev.2.00

Jan 20, 2006

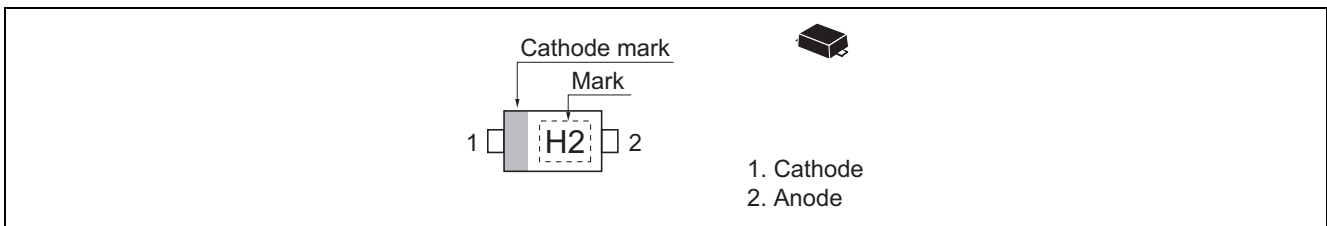
### Features

- Low capacitance. ( $C = 0.37 \text{ pF max}$ )
- Low forward resistance. ( $r_f = 2.5 \Omega \text{ max}$ )
- Super small Flat Lead Package (SFP) is suitable for surface mount design.

### Ordering Information

| Type No. | Laser Mark | Package Name | Package Code |
|----------|------------|--------------|--------------|
| HVD191   | H2         | SFP          | PUSF0002ZB-A |

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

| Item                 | Symbol    | Ratings     | Unit |
|----------------------|-----------|-------------|------|
| Reverse voltage      | $V_R$     | 30          | V    |
| Forward current      | $I_F$     | 100         | mA   |
| Power dissipation    | $P_d$     | 150         | mW   |
| Junction temperature | $T_j$     | 125         | °C   |
| Storage temperature  | $T_{stg}$ | -55 to +125 | °C   |

## Electrical Characteristics

(Ta = 25°C)

| Item               | Symbol | Min | Typ | Max  | Unit     | Test Condition                             |
|--------------------|--------|-----|-----|------|----------|--|
| Forward voltage    | $V_F$  | —   | —   | 1.0  | V        | $I_F = 10 \text{ mA}$                      |
| Reverse current    | $I_R$  | —   | —   | 100  | nA       | $V_R = 30 \text{ V}$                       |
| Capacitance        | C      | —   | —   | 0.37 | pF       | $V_R = 1 \text{ V}, f = 1 \text{ MHz}$     |
| Forward resistance | $r_f$  | —   | —   | 2.5  | $\Omega$ | $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$ |

Note: For SFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

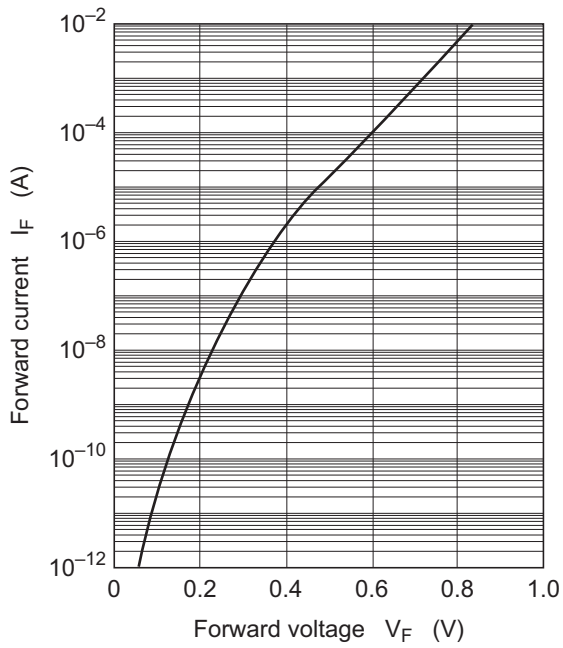


Fig.1 Forward current vs. Forward voltage

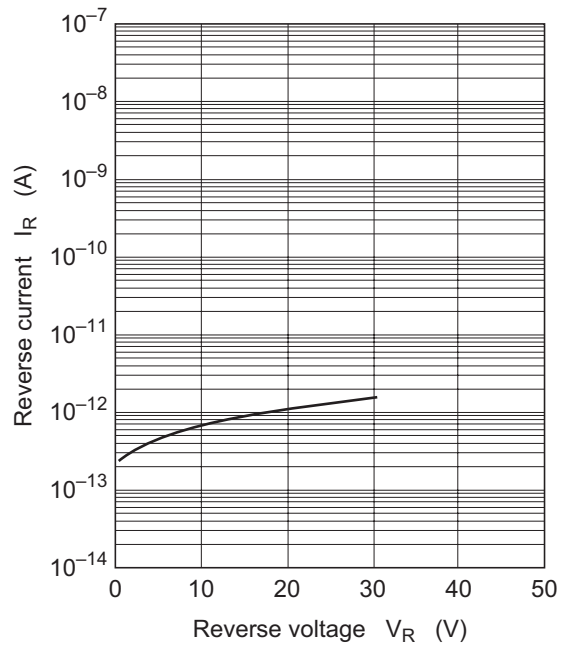


Fig.2 Reverse current vs. Reverse voltage

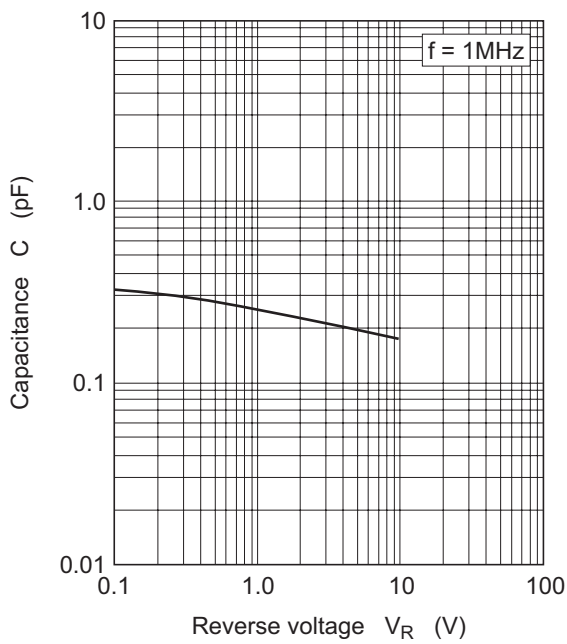


Fig.3 Capacitance vs. Reverse voltage

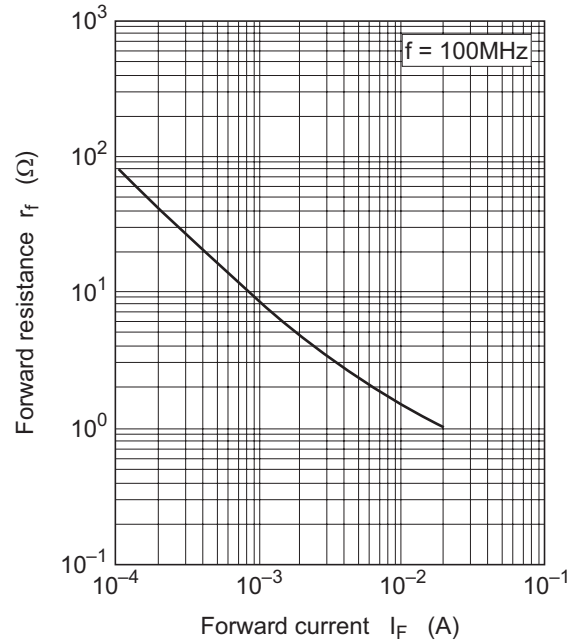
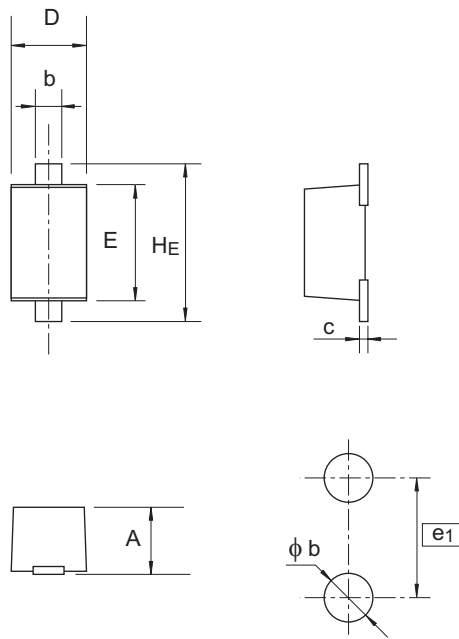


Fig.4 Forward resistance vs. Forward current

### Package Dimensions

|              |                    |              |               |            |
|--------------|--------------------|--------------|---------------|------------|
| Package Name | JEITA Package Code | RENESAS Code | Previous Code | MASS[Typ.] |
| SFP          | —                  | PUSF0002ZB-A | SFP / SFPV    | 0.0010g    |



Pattern of terminal position areas

| Reference Symbol | Dimension in Millimeters |      |      |
|------------------|--------------------------|------|------|
|                  | Min                      | Nom  | Max  |
| A                | 0.50                     | —    | 0.55 |
| b                | 0.25                     | 0.30 | 0.35 |
| c                | 0.08                     | 0.13 | 0.18 |
| D                | 0.55                     | 0.60 | 0.65 |
| E                | 0.90                     | 1.00 | 1.10 |
| $H_E$            | 1.30                     | 1.40 | 1.50 |
| $\phi b$         | —                        | 0.50 | —    |
| $e_1$            | —                        | 1.40 | —    |

**Keep safety first in your circuit designs!**

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