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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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RENESAS

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# HVC142A

## Silicon Epitaxial Planar Pin Diode for Antenna Switching

REJ03G0422-0100
(Previous: ADE-208-1588)
Rev.1.00
Nov 26, 2004

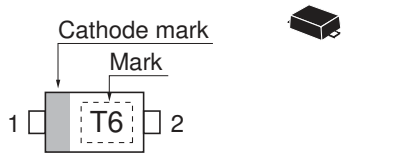
## Features

- An optimal solution for antenna switching in mobile phones.
- Low capacitance. (C = 0.35 pF max)
- Low forward resistance. (rf = 1.3 Ω max)
- Ultra small Flat Lead Package (UFP) is suitable for surface mount design.

## Ordering Information

| Type No. | Laser Mark | Package Code |
|---|---|---|
| HVC142A | T6 | UFP |

## Pin Arrangement




1. Cathode
2. Anode

## Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---|---|---|---|
| Reverse voltage | $V_R$ | 30 | V |
| Forward current | $I_F$ | 100 | mA |
| Power dissipation | Pd | 150 | mW |
| Junction temperature | Tj | 125 | °C |
| Storage temperature | Tstg | –55 to +125 | °C |

## Electrical Characteristics

(Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Reverse current | $I_R$ | — | — | 100 | nA | $V_R$ = 30 V |
| Forward voltage | $V_F$ | — | — | 1.0 | V | $I_F$ = 10 mA |
| Capacitance | C | — | — | 0.35 | pF | $V_R$ = 1 V, f = 1 MHz |
| Forward resistance | $r_f$ | — | — | 1.3 | Ω | $I_F$ = 10 mA, f = 100 MHz |
| ESD-Capability *[1] | — | 100 | — | — | V | C = 200 pF, R = 0 Ω, Both forward and reverse direction 1 pulse. |

Note: 1. Failure criterion; $I_R$ > 100 nA at $V_R$ = 30 V

## Main Characteristic

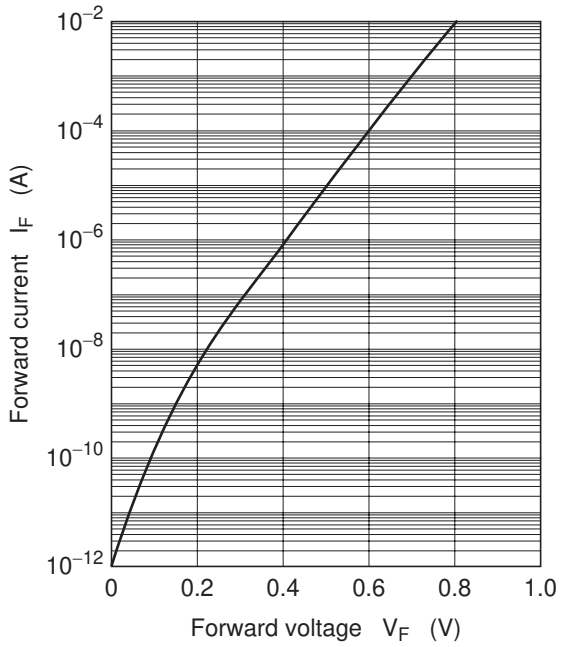



Fig.1 Forward current vs. Forward voltage

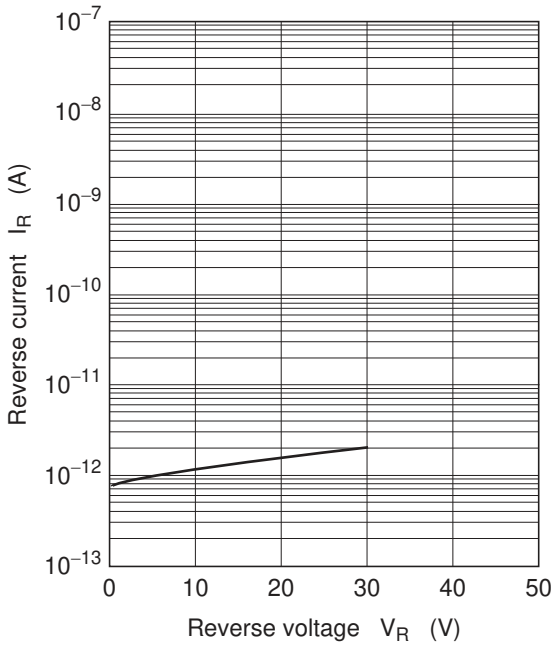



Fig.2 Reverse current vs. Reverse voltage

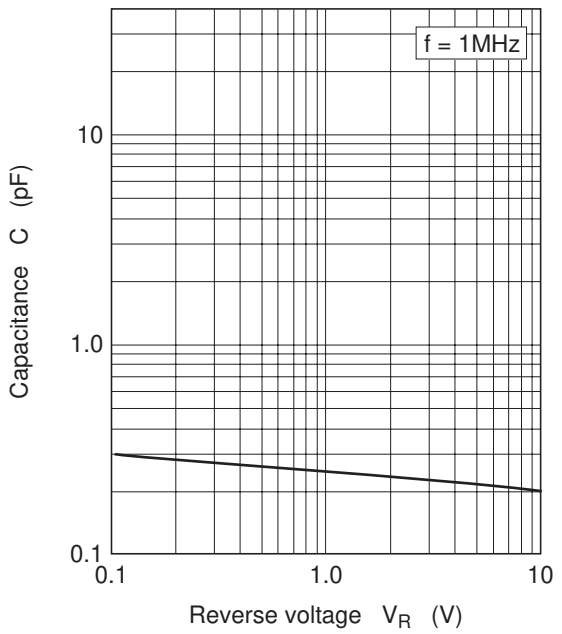



Fig.3 Capacitance vs. Reverse voltage

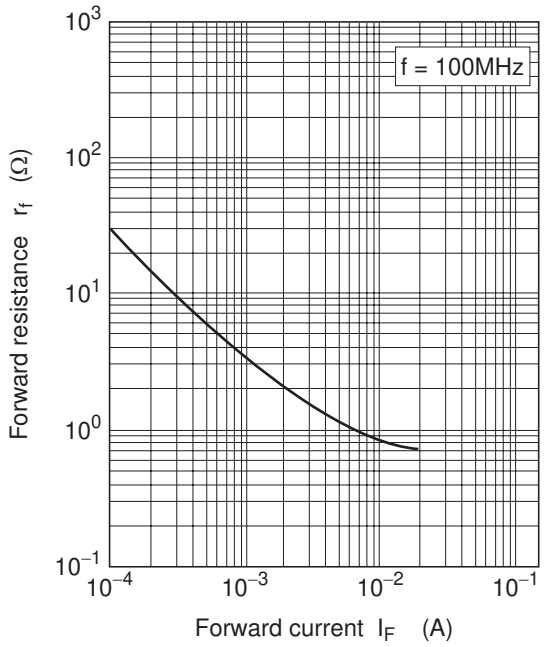



Fig.4 Forward resistance vs. Forward current

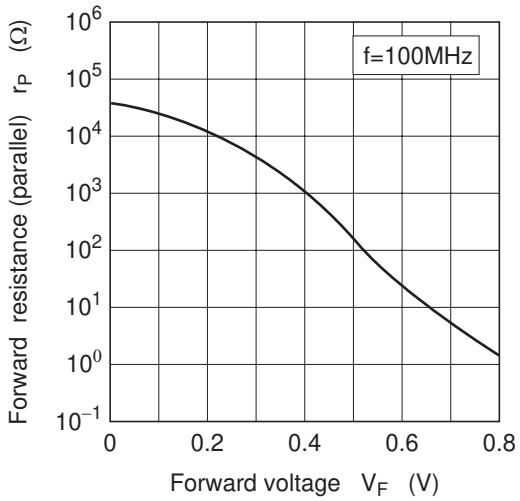
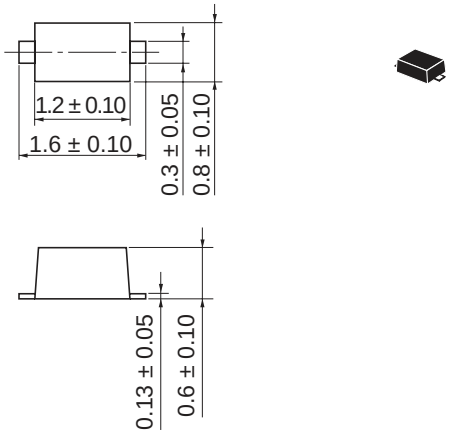



Fig.5 Forward resistance (parallel) vs. Forward voltage

## Package Dimensions

As of January, 2003

Unit: mm




| | |
|---|---|
| Package Code | UFP |
| JEDEC | — |
| JEITA | Conforms |
| Mass (reference value) | 0.0016 g |

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