



# HVL145

## Silicon Epitaxial Planar Pin Diode for Antenna Switching

REJ03G0434-0100  
(Previous: ADE-208-1597)  
Rev.1.00  
Dec 07, 2004

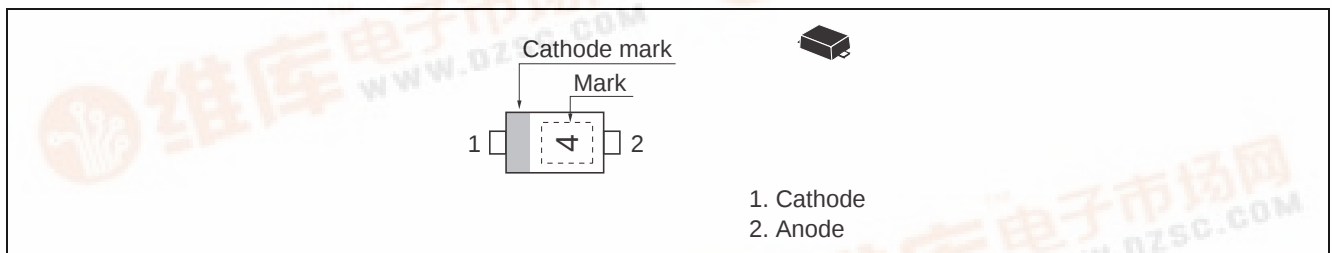
### Features

- An optimal solution for antenna switching in mobile phones.
- Low capacitance. ( $C = 0.45 \text{ pF max}$ )
- Low forward resistance. ( $r_f = 1.8 \Omega \text{ max}$ )
- Extremely small Flat Lead Package (EFP) is suitable for surface mount design.

### Ordering Information

| Type No. | Laser Mark | Package Code |
|----------|------------|--------------|
| HVL145   | 4          | EFP          |

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

| Item                 | Symbol           | Value       | Unit |
|----------------------|------------------|-------------|------|
| Reverse voltage      | V <sub>R</sub>   | 60          | V    |
| Forward current      | I <sub>F</sub>   | 50          | mA   |
| Power dissipation    | P <sub>d</sub>   | 100         | mW   |
| Junction temperature | T <sub>j</sub>   | 125         | °C   |
| Storage temperature  | T <sub>stg</sub> | -55 to +125 | °C   |

## Electrical Characteristics

(Ta = 25°C)

| Item                          | Symbol         | Min | Typ | Max  | Unit | Test Condition                                                   |
|-------------------------------|----------------|-----|-----|------|------|------------------------------------------------------------------|
| Reverse current               | I <sub>R</sub> | —   | —   | 100  | nA   | V <sub>R</sub> = 60 V                                            |
| Forward voltage               | V <sub>F</sub> | —   | —   | 0.9  | V    | I <sub>F</sub> = 2 mA                                            |
| Capacitance                   | C              | —   | —   | 0.45 | pF   | V <sub>R</sub> = 1 V, f = 1 MHz                                  |
| Forward resistance            | r <sub>f</sub> | —   | —   | 1.8  | Ω    | I <sub>F</sub> = 10 mA, f = 100 MHz                              |
| ESD-Capability * <sup>1</sup> | —              | 100 | —   | —    | V    | C = 200 pF, R = 0 Ω, Both forward and reverse direction 1 pulse. |

Notes: 1. Failure criterion; I<sub>R</sub> > 100 nA at V<sub>R</sub> = 60 V

2. Please do not use the soldering iron due to avoid high stress to the EFP package.

3. 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

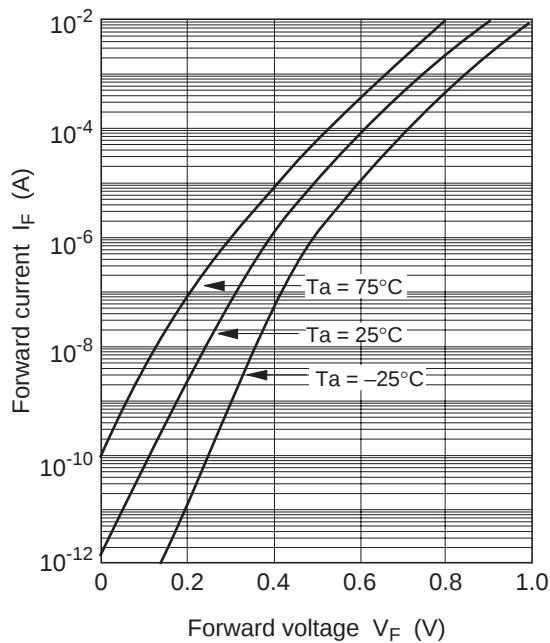


Fig.1 Forward current vs. Forward voltage

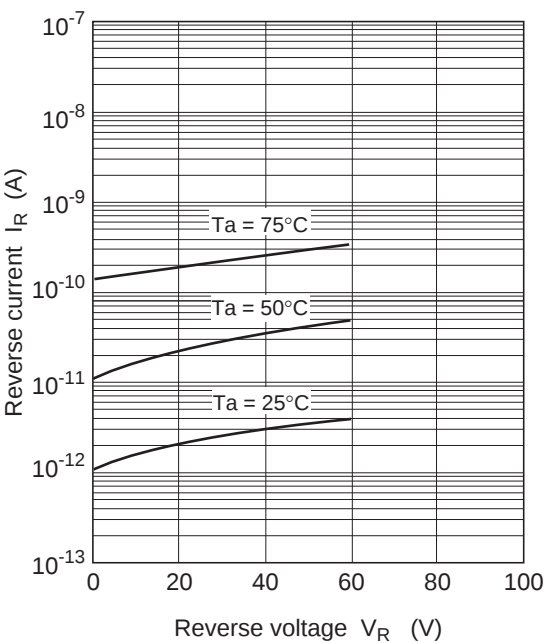


Fig.2 Reverse current vs. Reverse voltage

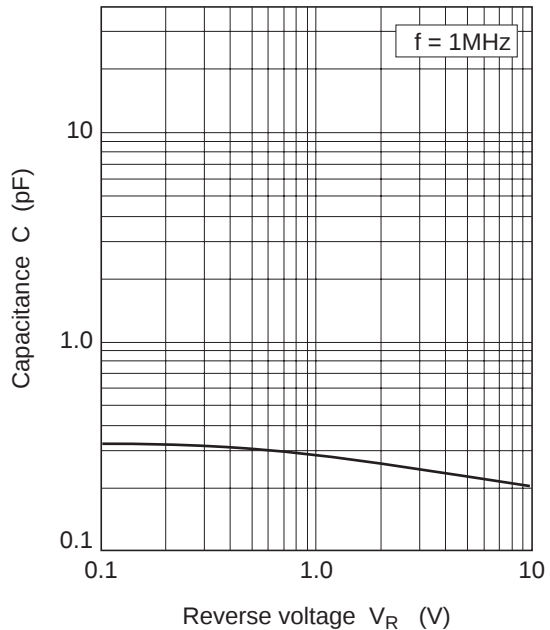


Fig.3 Capacitance vs. Reverse voltage

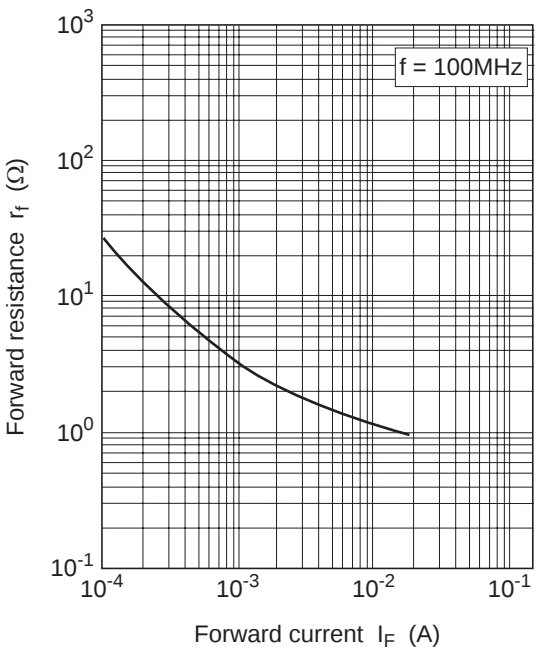


Fig.4 Forward resistance vs. Forward current

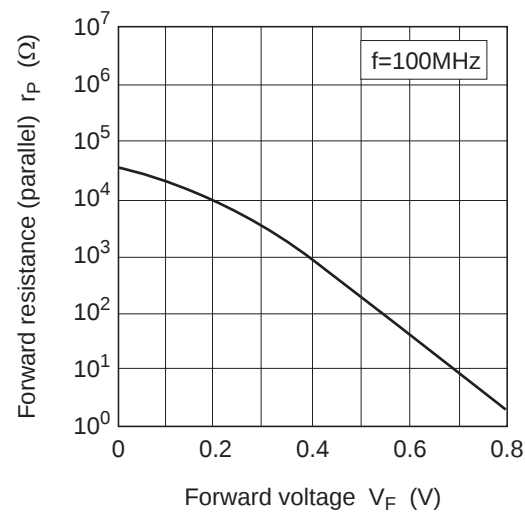
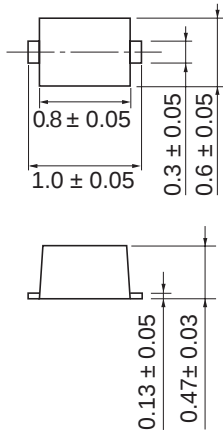


Fig.5 Forward resistance (parallel) vs. Forward voltage

Package Dimensions

As of January, 2003  
Unit: mm



|                        |          |
|------------------------|----------|
| Package Code           | EFP      |
| JEDEC                  | —        |
| JEITA                  | —        |
| Mass (reference value) | 0.0007 g |

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