

To our customers,

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## Old Company Name in Catalogs and Other Documents

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

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

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

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## HVC145

### Silicon Epitaxial Planar Pin Diode for Antenna Switching

REJ03G0423-0300  
(Previous: ADE-208-1500B)  
Rev.3.00  
Dec 07, 2004

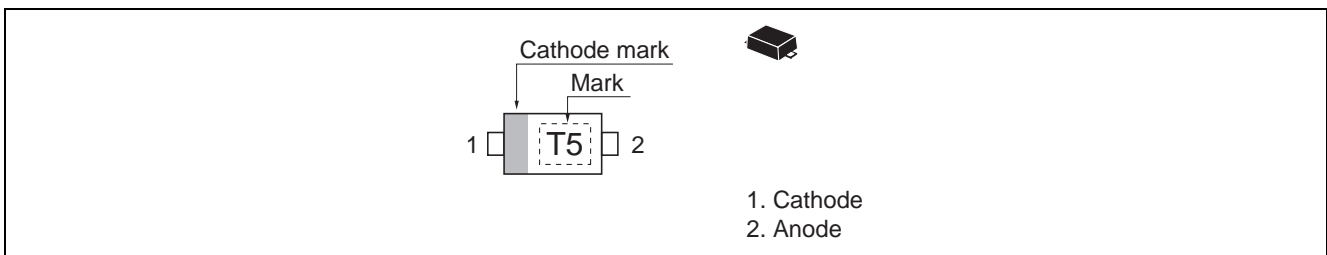
#### Features

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

#### Ordering Information

Type No.	Laser Mark	Package Code
HVC145	T5	UFP

#### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	60	V
Forward current	$I_F$	50	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
Reverse current	$I_R$	—	—	100	nA	$V_R = 60\text{ V}$
Forward voltage	$V_F$	—	—	0.9	V	$I_F = 2\text{ mA}$
Capacitance	C	—	—	0.45	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
Forward resistance	$r_f$	—	—	1.8	$\Omega$	$I_F = 10\text{ mA}, f = 100\text{ MHz}$
ESD-Capability *1	—	100	—	—	V	C = 200 pF, R = 0 $\Omega$ , Both forward and reverse direction 1 pulse.

Note: 1. Failure criterion;  $I_R > 100\text{ nA}$  at  $V_R = 60\text{ V}$

Main Characteristic

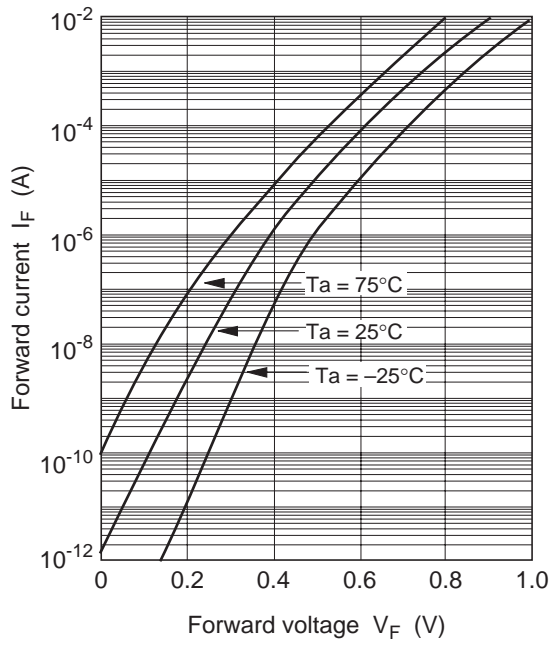


Fig.1 Forward current vs. Forward voltage

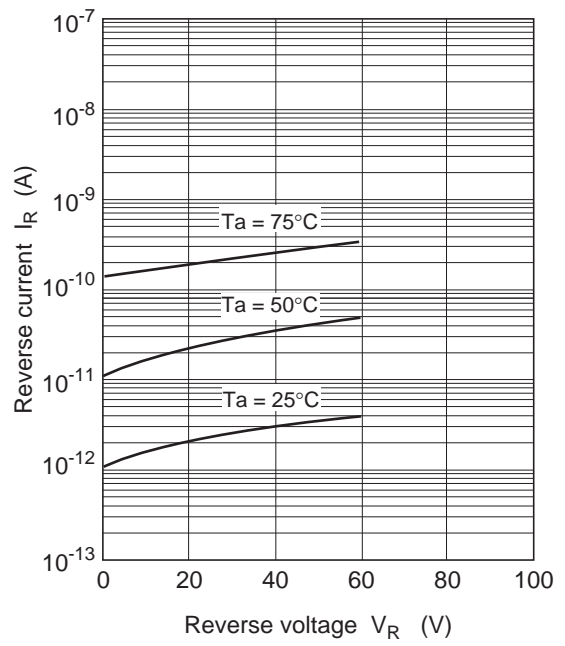


Fig.2 Reverse current vs. Reverse voltage

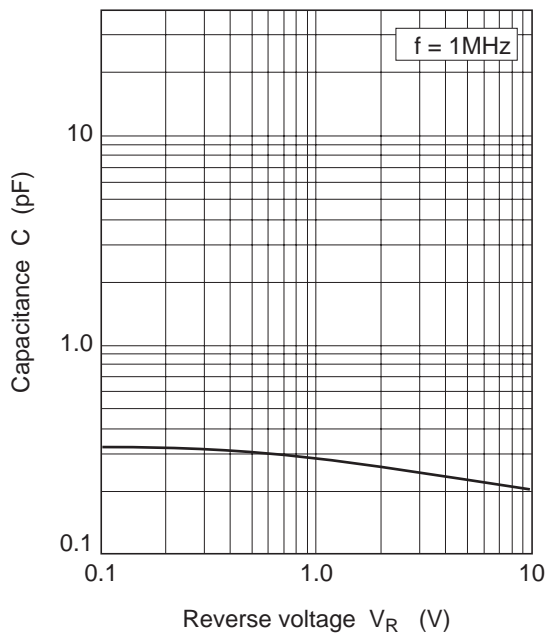


Fig.3 Capacitance vs. Reverse voltage

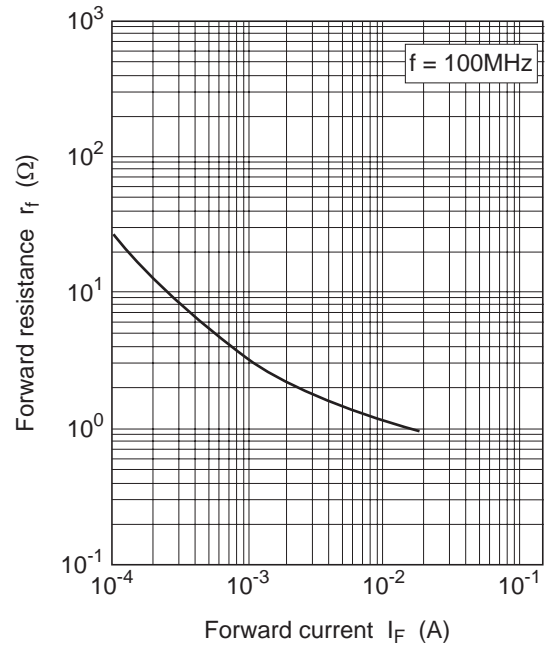


Fig.4 Forward resistance vs. Forward current

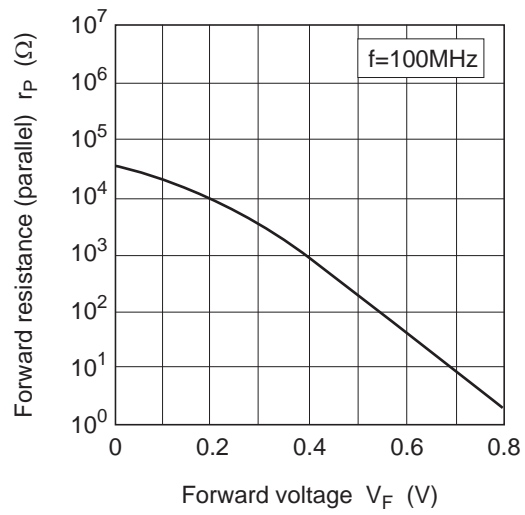
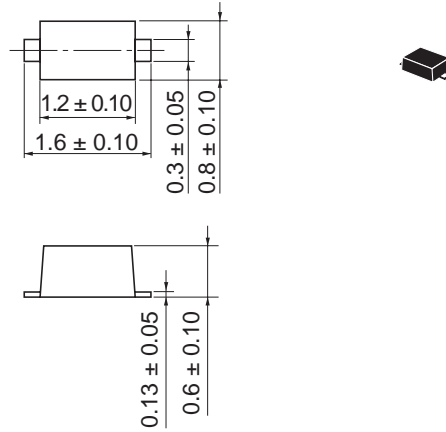


Fig.5 Forward resistance (parallel) vs. Forward voltage

## Package Dimensions

As of January, 2003  
Unit: mm

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

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