

To all our customers

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Renesas Technology Corp.  
Customer Support Dept.  
April 1, 2003

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# HVD144

## Silicon Epitaxial Trench Pin Diode for Antenna Switching



ADE-208-1413 (Z)

Rev.0  
Sep. 2001

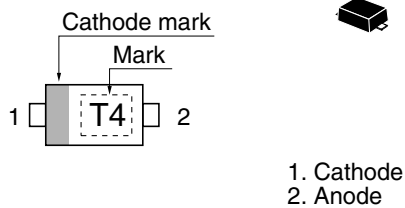
### Features

- Adopting the trench structure improves low capacitance. ( $C = 0.45 \text{ pF max}$ )
- Low forward resistance. ( $r_f = 2.0 \text{ } \Omega \text{ max}$ )
- Low operation current.
- Super small Flat Package (SFP) is suitable for surface mount design.

### Ordering Information

Type No.	Laser Mark	Package Code
HVD144	T4	SFP

### Outline



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	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	$V_F$	—	—	0.9	V	$I_F = 2$ mA
Capacitance	C	—	—	0.45	pF	$V_R = 1$ V, $f = 1$ MHz
Forward resistance	$r_f$	—	—	2.0	$\Omega$	$I_F = 2$ mA, $f = 100$ MHz
ESD-Capability <sup>*1</sup>	—	100	—	—	V	C = 200 pF, R = 0 $\Omega$ , Both forward and reverse direction 1 pulse.

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

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

## Main Characteristic

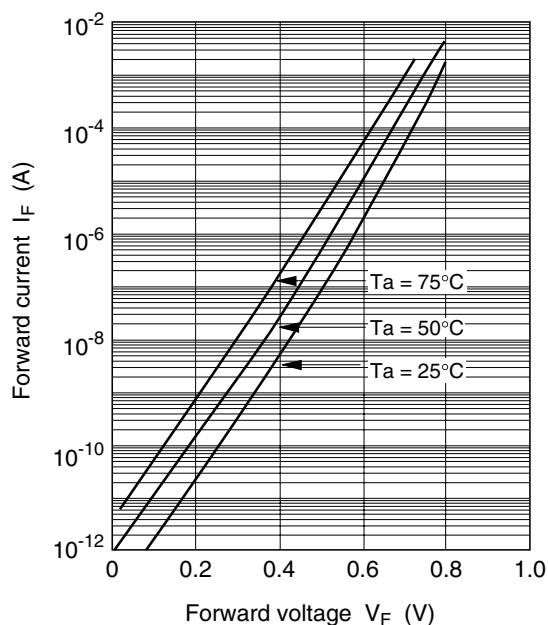


Fig.1 Forward current vs. Forward voltage

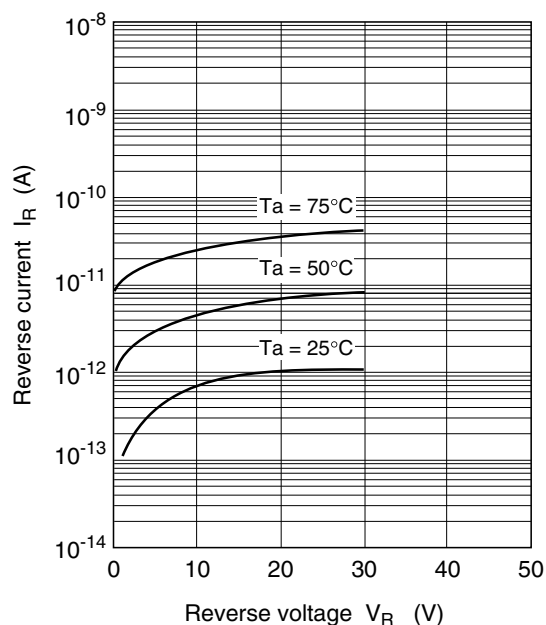


Fig.2 Reverse current vs. Reverse voltage

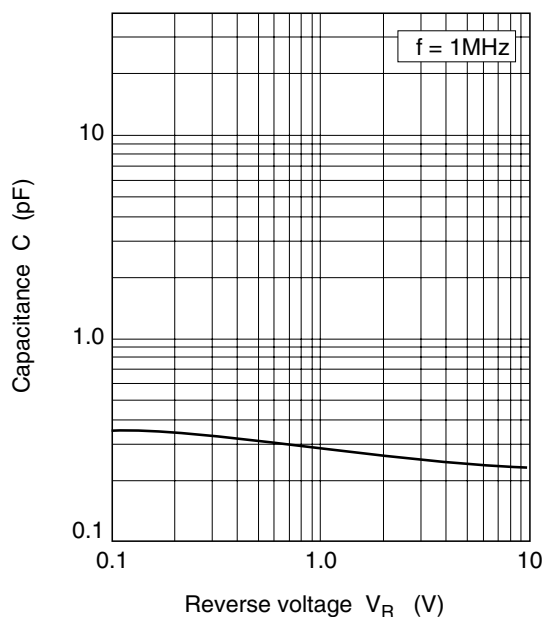


Fig.3 Capacitance vs. Reverse voltage

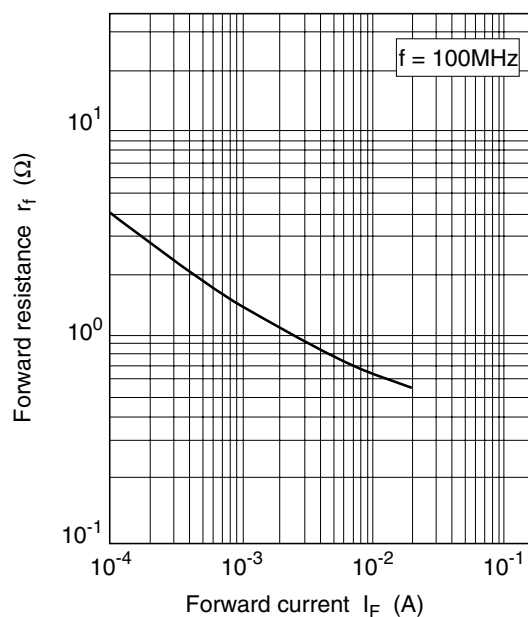


Fig.4 Forward resistance vs. Forward current

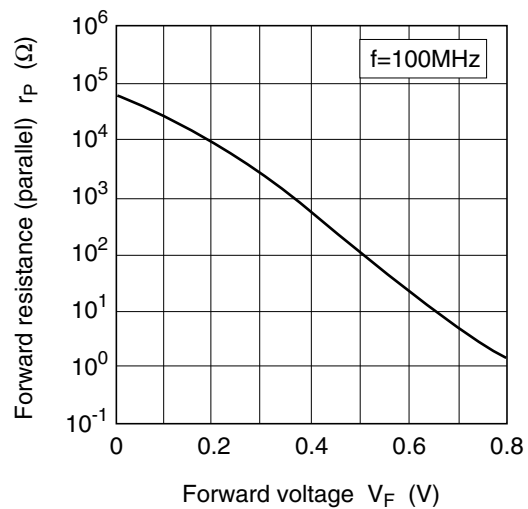
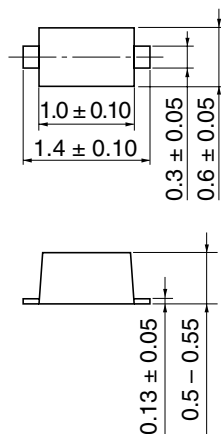


Fig.5 Forward resistance (parallel) vs. Forward voltage

## Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	SFP
JEDEC	—
EIAJ	—
Mass (reference value)	0.0010 g

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