

# HVC135

## Silicon Epitaxial Trench Pin Diode for Antenna Switching

# HITACHI

ADE-208-818A (Z)  
Rev 1  
Feb. 2000

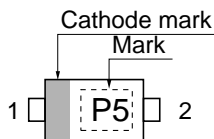
### Features

- Adopting the trench structure improves low capacitance.( $C=0.6\text{pF}$  max)
- Low forward resistance. ( $r_f=2.0\Omega$  max)
- Low operation current.
- Ultra small Flat Package (UFP) is suitable for surface mount design and stable rf characteristics in high frequency.

### Ordering Information

Type No.	Laser Mark	Package Code
HVC135	P5	UFP

### Outline



1. Cathode
2. Anode

**Absolute Maximum Ratings (Ta = 25°C)**

Item	Symbol	Value	Unit
Peak reverse voltage	$V_{RM}$	65	V
Reverse voltage	$V_R$	60	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
Reverse current	$I_R$	—	—	0.1	$\mu$ A	$V_R = 60V$
Forward voltage	$V_F$	—	—	0.9	V	$I_F = 2\text{ mA}$
Capacitance	C	—	—	0.6	pF	$V_R = 1V, f = 1\text{ MHz}$
Forward resistance	$r_f$	—	—	2.0	$\Omega$	$I_F = 2\text{ mA}, f = 100\text{ MHz}$
ESD-Capability <sup>1</sup>	—	100	—	—	V	C = 200pF , Both forward and reverse direction 1 pulse.

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

Main Characteristic

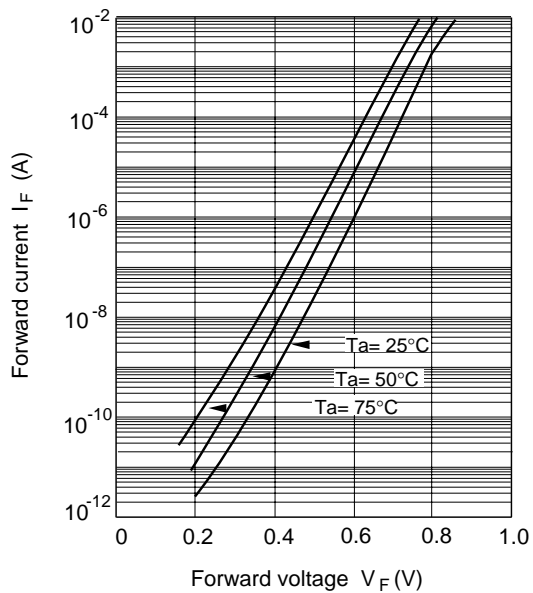


Fig.1 Forward current Vs. Forward voltage

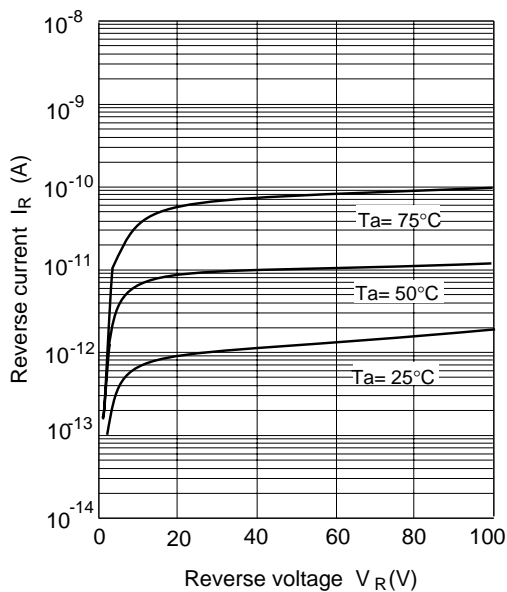


Fig.2 Reverse current Vs. Reverse voltage

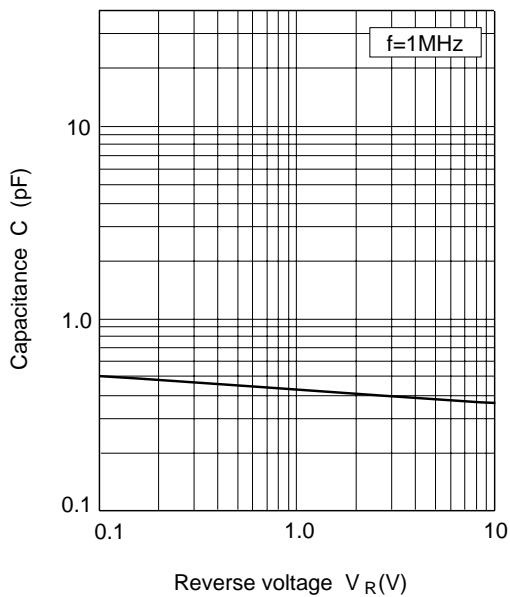


Fig.3 Capacitance Vs. Reverse voltage

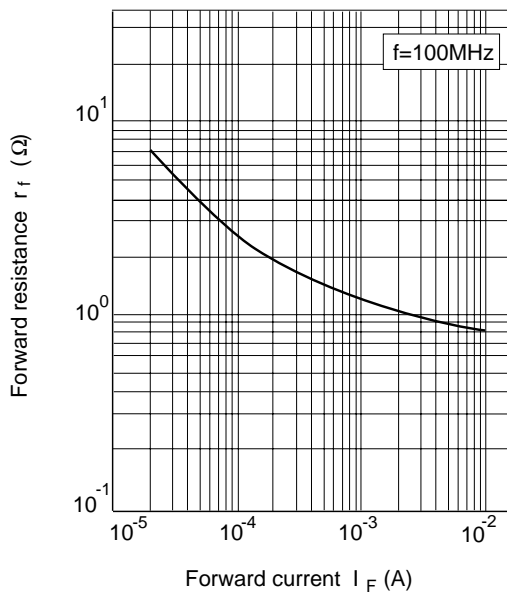


Fig.4 Forward resistance Vs. Forward current

Main Characteristic

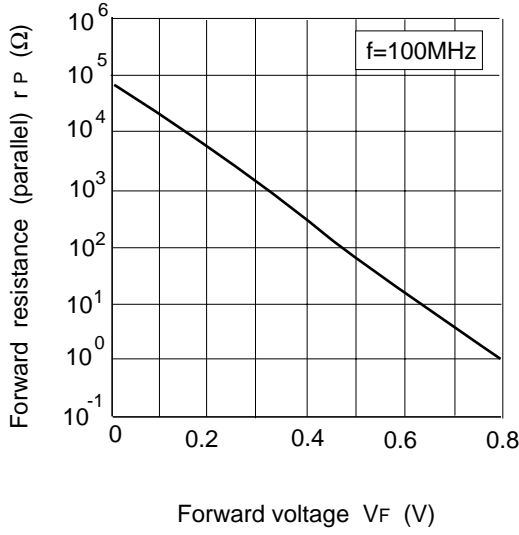
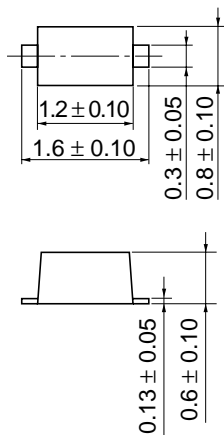


Fig.5 Forward resistance (parallel) Vs. Forward voltage

## Package Dimensions

Unit: mm



Hitachi Code	UFP
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.0016 g

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**HITACHI****Hitachi, Ltd.**

Semiconductor & Integrated Circuits.  
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL      North America      : <http://semiconductor.hitachi.com/>  
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**For further information write to:**

Hitachi Semiconductor  
(America) Inc.  
179 East Tasman Drive,  
San Jose, CA 95134  
Tel: <1> (408) 433-1990  
Fax: <1>(408) 433-0223

Hitachi Europe GmbH  
Electronic components Group  
Dornacher Straße 3  
D-85622 Feldkirchen, Munich  
Germany  
Tel: <49> (89) 9 9180-0  
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.  
Electronic Components Group.  
Whitebrook Park  
Lower Cookham Road  
Maidenhead  
Berkshire SL6 8YA, United Kingdom  
Tel: <44> (1628) 585000  
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.  
16 Collyer Quay #20-00  
Hitachi Tower  
Singapore 049318  
Tel: 535-2100  
Fax: 535-1533

Hitachi Asia Ltd.  
Taipei Branch Office  
3F, Hung Kuo Building, No.167,  
Tun-Hwa North Road, Taipei (105)  
Tel: <886> (2) 2718-3666  
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.  
Group III (Electronic Components)  
7/F., North Tower, World Finance Centre,  
Harbour City, Canton Road, Tsim Sha Tsui,  
Kowloon, Hong Kong  
Tel: <852> (2) 735 9218  
Fax: <852> (2) 730 0281  
Telex: 40815 HITEC HX

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