

To all our customers

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

Cautions

Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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HVC142

Silicon Epitaxial Planar Pin Diode for Antenna Switching



ADE-208-1093 (Z)

Rev.0

Jan. 2001

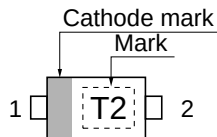
Features

- Low capacitance. ($C = 0.35 \text{ pF max}$)
- Low forward resistance. ($r_f = 1.5 \Omega \text{ max}$)
- 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
HVC142	T2	UFP

Outline



1. Cathode
2. Anode

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	30	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	μA	$V_R = 30\text{ V}$
Forward voltage	V_F	—	—	1.0	V	$I_F = 10\text{ mA}$
Capacitance	C	—	—	0.35	pF	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$
Forward resistance	r_f	—	—	1.5	Ω	$I_F = 10\text{ mA}$, $f = 100\text{ MHz}$
ESD-Capability *	—	100	—	—	V	C = 200 pF, R = 0 Ω , Both forward and reverse direction 1 pulse.

Note: Failure criterion ; $I_R > 100\text{ nA}$ at $V_R = 30\text{ V}$

Main Characteristic

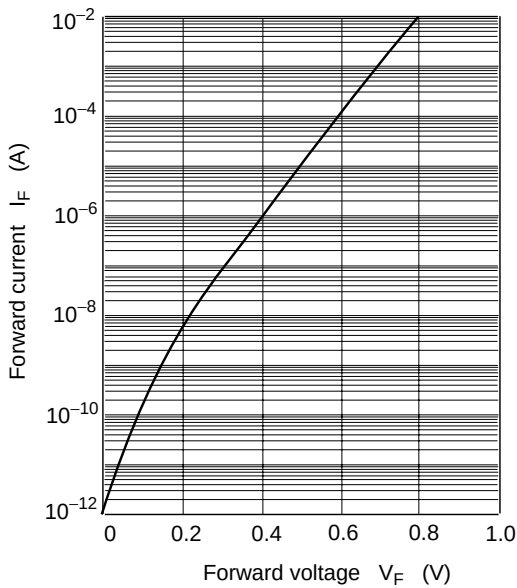


Fig.1 Forward current Vs. Forward voltage

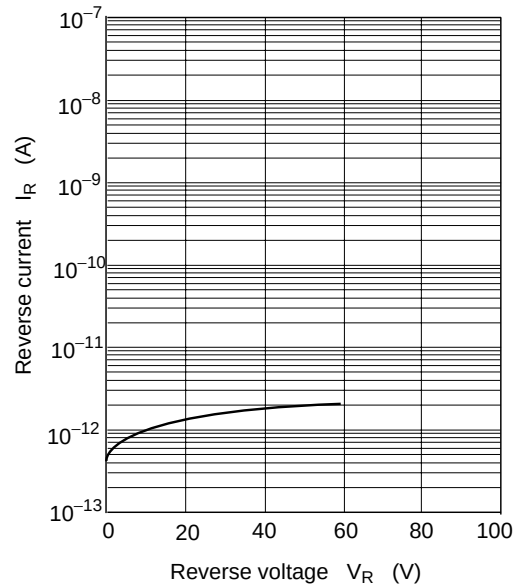


Fig.2 Reverse current Vs. Reverse voltage

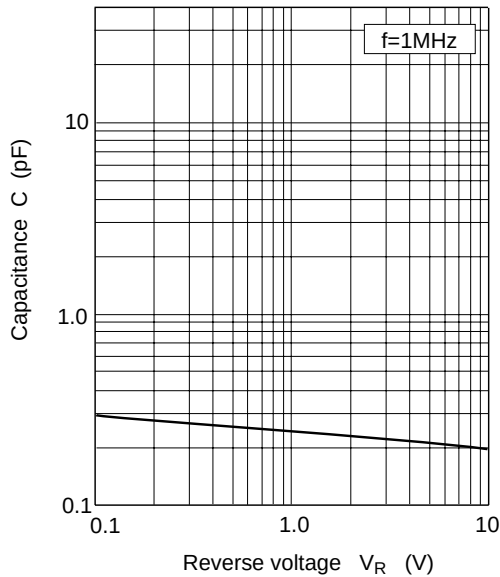


Fig.3 Capacitance Vs. Reverse voltage

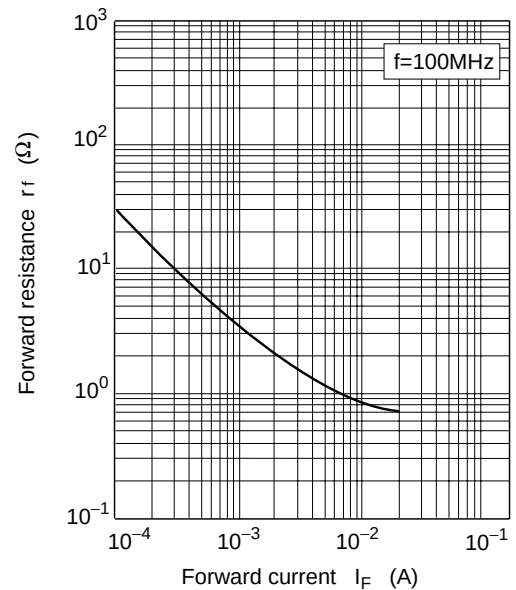


Fig.4 Forward resistance Vs. Forward current

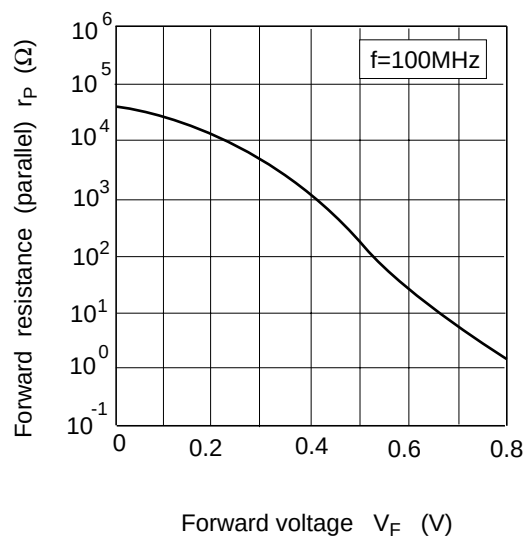
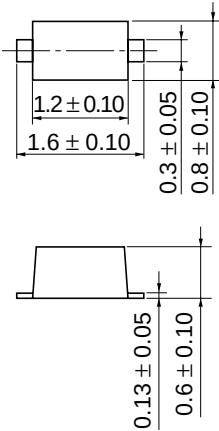


Fig.5 Forward resistance (parallel) Vs. Forward voltage

Package Dimensions

Unit: mm



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

Cautions

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