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

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

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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HVD138

Silicon Epitaxial Trench Pin Diode for Antenna Switching



ADE-208-958A (Z)

Rev.1
May 2001

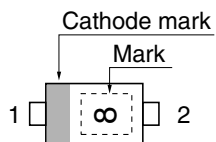
Features

- Adopting the trench structure improves low capacitance. ($C = 0.9 \text{ pF max}$)
- Low forward resistance. ($r_f = 1.1 \Omega \text{ max}$)
- Low operation current.
- Super small Flat Package (SFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVD138	8	SFP

Outline



1. Cathode
2. Anode

Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

Electrical Characteristics

($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse current	I_R	—	—	10	nA	$V_R = 25\text{ V}$
Forward voltage	V_F	—	—	0.9	V	$I_F = 2\text{ mA}$
Capacitance	C	—	—	0.9	pF	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$
Forward resistance	r_f	—	—	1.1	Ω	$I_F = 2\text{ mA}$, $f = 100\text{ MHz}$

Note: 1. Please do not use the soldering iron due to avoid high stress to the SFP package.

Main Characteristic

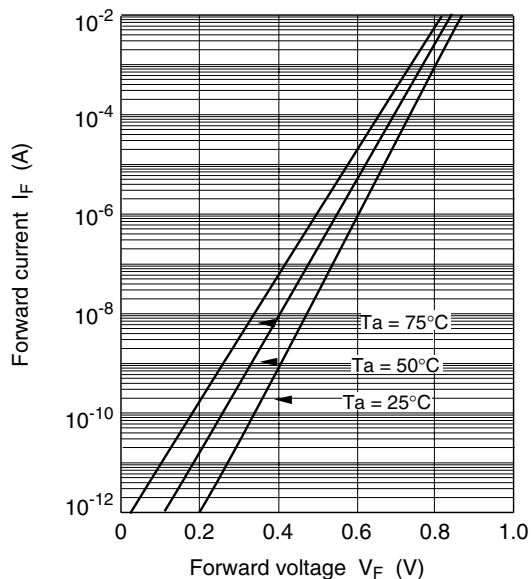


Fig.1 Forward current vs. Forward voltage

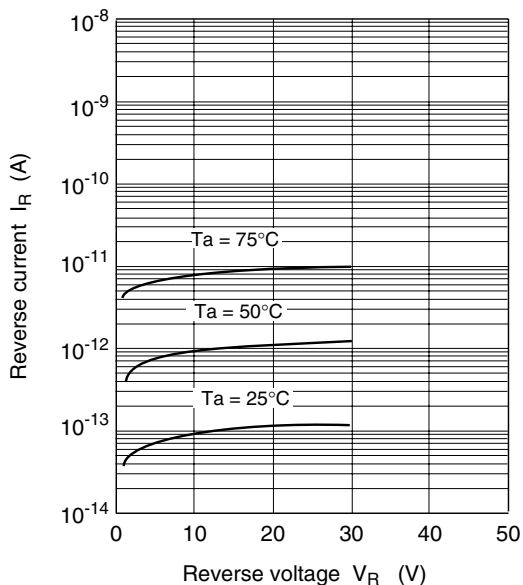


Fig.2 Reverse current vs. Reverse voltage

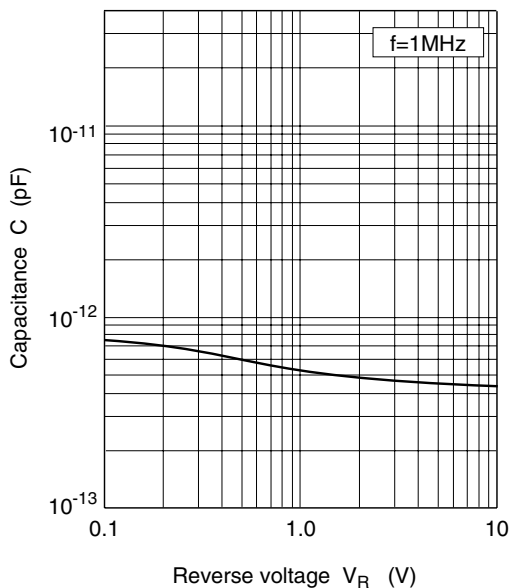


Fig.3 Capacitance vs. Reverse voltage

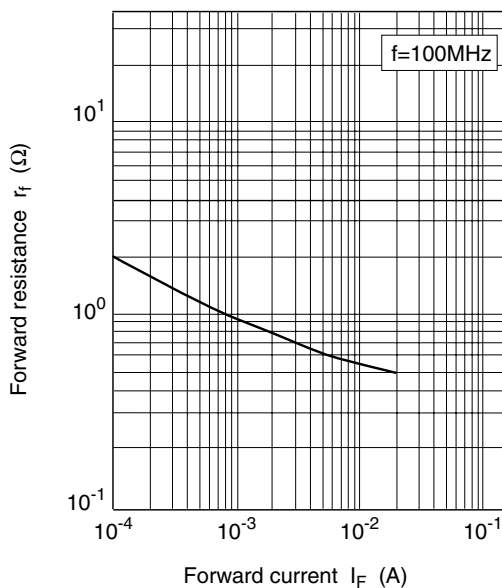


Fig.4 Forward resistance vs. Forward current

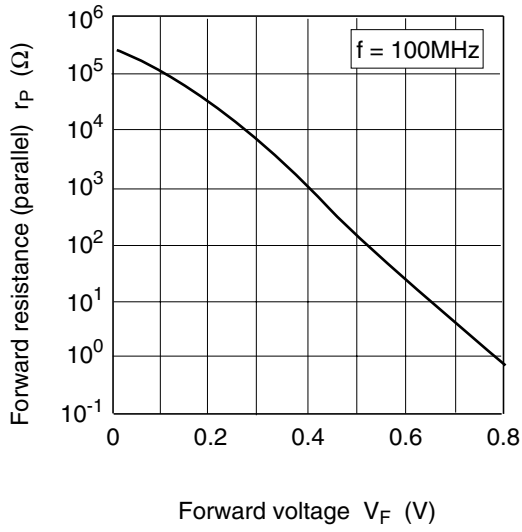
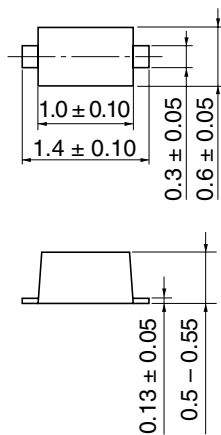


Fig.5 Forward resistance (parallel) vs. Forward voltage

Package Dimensions

As of January, 2001

Unit: mm



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

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