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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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HVL142

Silicon Epitaxial Trench Pin Diode for Antenna Switching



ADE-208-1495 (Z)

Rev.0
Jun. 2002

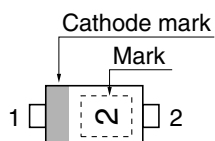
Features

- Low capacitance. ($C = 0.35 \text{ pF max}$)
- Low forward resistance. ($r_f = 1.5 \Omega \text{ max}$)
- Super small Flat Package (EFP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVL142	2	EFP

Pin Arrangement



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	Pd	100	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	—	—	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 *1	—	100	—	—	V	C = 200 pF, $R_L = 0\text{ Ω}$, Both forward and reverse direction 1 pulse.

Notes: 1. Failure criterion ; $I_R > 100\text{ nA}$ at $V_R = 30\text{ V}$
2. Please do not use the soldering iron due to avoid high stress to the EFP package.
3. The material of lead is exposed for cutting plane. Therefor, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

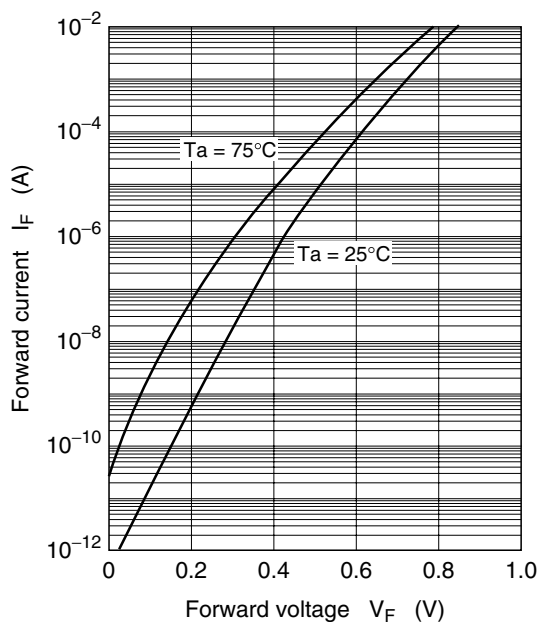


Fig.1 Forward current vs. Forward voltage

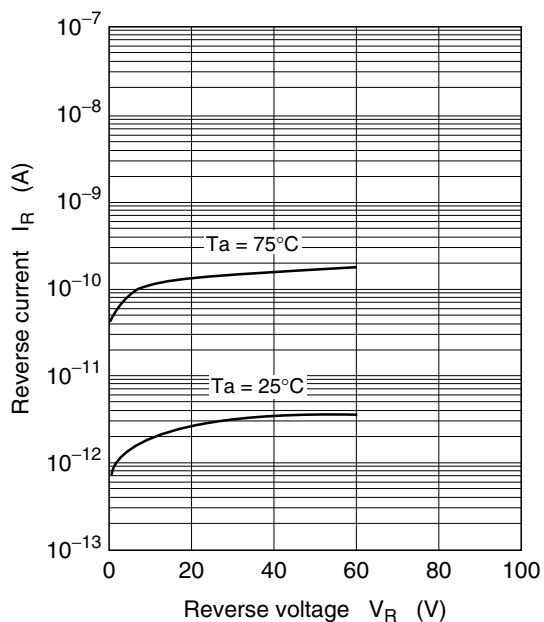


Fig.2 Reverse current vs. Reverse voltage

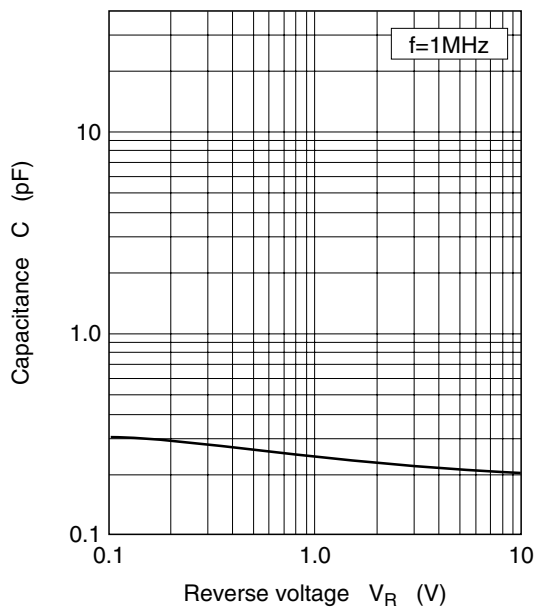


Fig.3 Capacitance vs. Reverse voltage

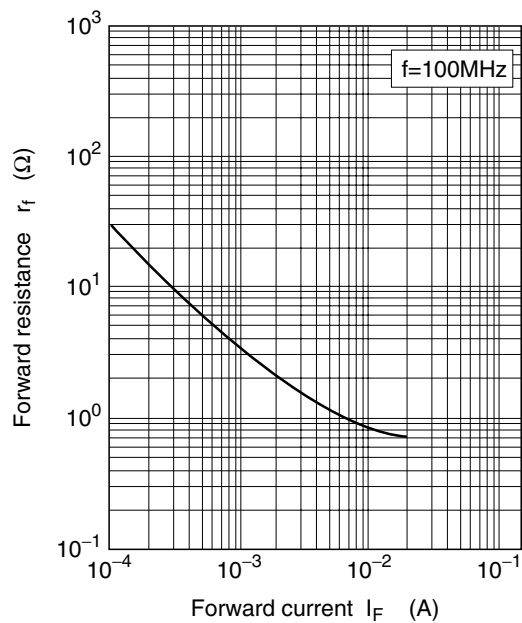


Fig.4 Forward resistance vs. Forward current

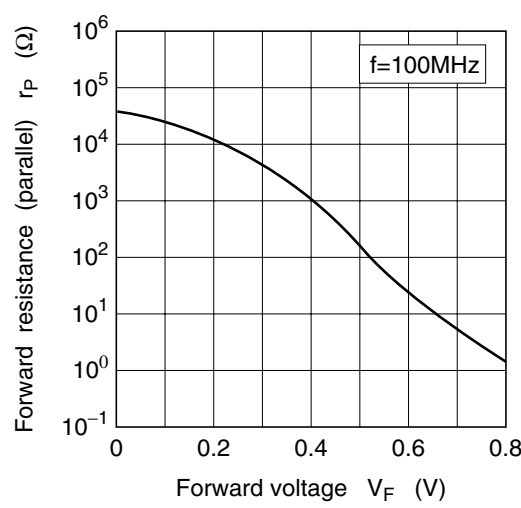
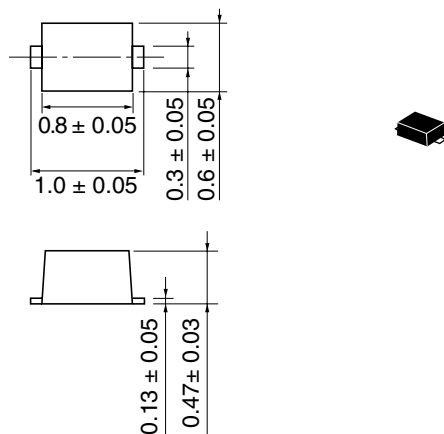


Fig.5 Forward resistance (parallel) vs. Forward voltage

Package Dimensions

Unit: mm



Hitachi Code	EFP
JEDEC	—
JEITA	—
Mass (reference value)	0.0007 g

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