

## HVL138A

### Silicon Epitaxial Trench Pin Diode for Antenna Switching

REJ03G0431-0200  
Rev.2.00  
Jan 12, 2006

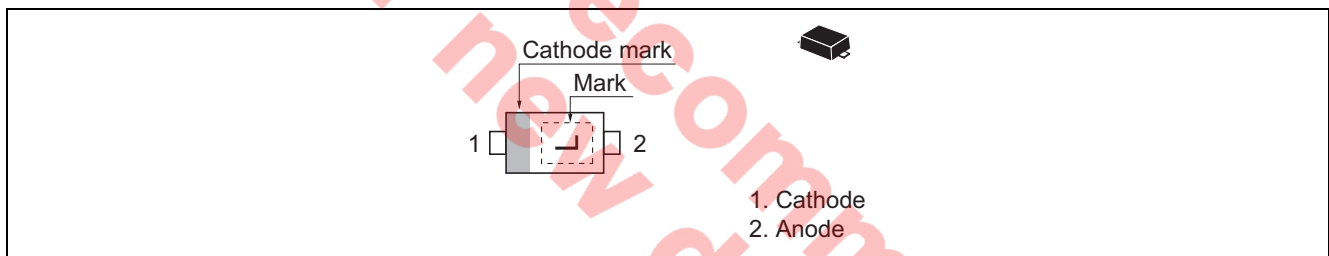
#### Features

- Adopting the trench structure improves low capacitance.(C = 0.85 pF max)
- Low forward resistance. ( $r_f = 1.1 \Omega$  max)
- Low operation current.
- Extremely small Flat Lead Package (EFP) is suitable for surface mount design.

#### Ordering Information

Type No.	Laser Mark	Package Name	Package Code
HVL138A	L	EFP	PXSF0002ZA-A

#### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Reverse voltage	$V_R$	30	V
Forward current	$I_F$	100	mA
Power dissipation	$P_d$	100	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	$I_R$	—	—	10	nA	$V_R = 25\text{ V}$
Forward voltage	$V_F$	—	—	0.9	V	$I_F = 2\text{ mA}$
Capacitance	C	—	—	0.85	pF	$V_R = 1\text{ V}, f = 1\text{ MHz}$
Forward resistance	$r_f$	—	—	1.1	$\Omega$	$I_F = 2\text{ mA}, f = 100\text{ MHz}$

Note: For EFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Main Characteristic

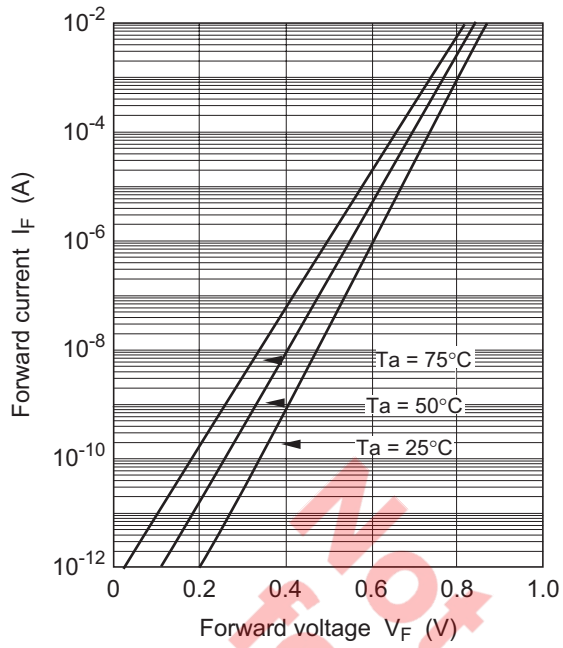


Fig.1 Forward current vs. Forward voltage

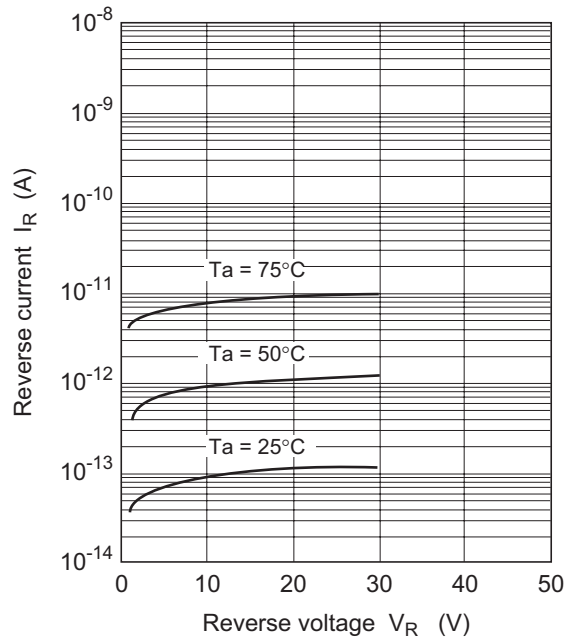


Fig.2 Reverse current vs. Reverse voltage

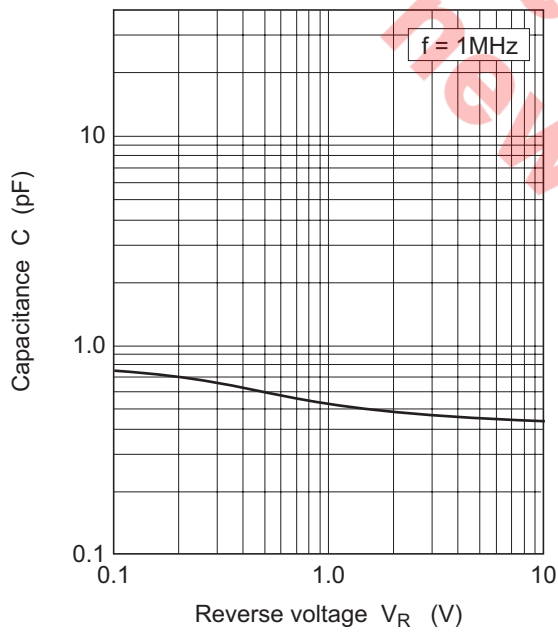


Fig.3 Capacitance vs. Reverse voltage

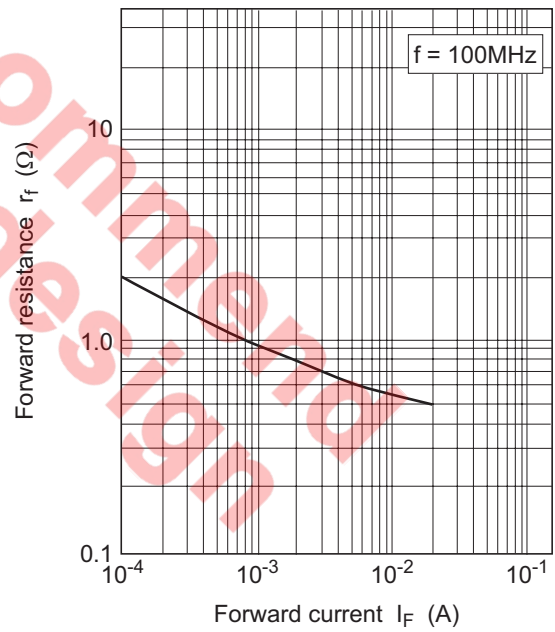


Fig.4 Forward resistance vs. Forward current

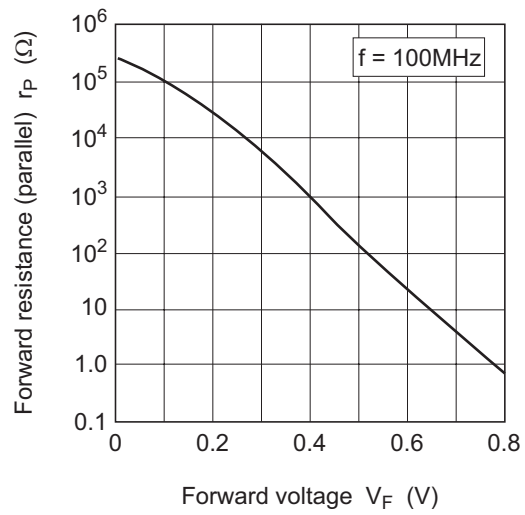
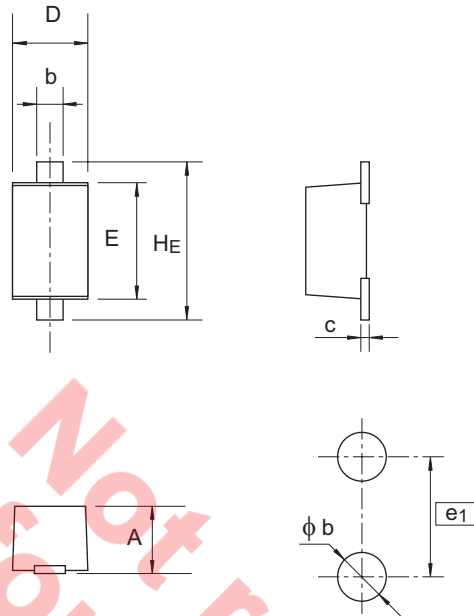


Fig.5 Forward resistance (parallel) vs. Forward voltage

Not recommend  
for new design

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
EFP	—	PXSF0002ZA-A	EFP / EFPV	0.0007g



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.44	0.47	0.50
b	0.25	0.30	0.35
c	0.08	0.13	0.18
D	0.55	0.60	0.65
E	0.75	0.80	0.85
$H_E$	0.95	1.00	1.05
$\phi b$	—	0.40	—
$e_1$	—	1.00	—

Not recommend for new design

Keep safety first in your circuit designs!

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