

HVL147

Silicon Epitaxial Trench Pin Diode for Antenna Switching

REJ03G0393-0300

Rev.3.00

Jan 13, 2006

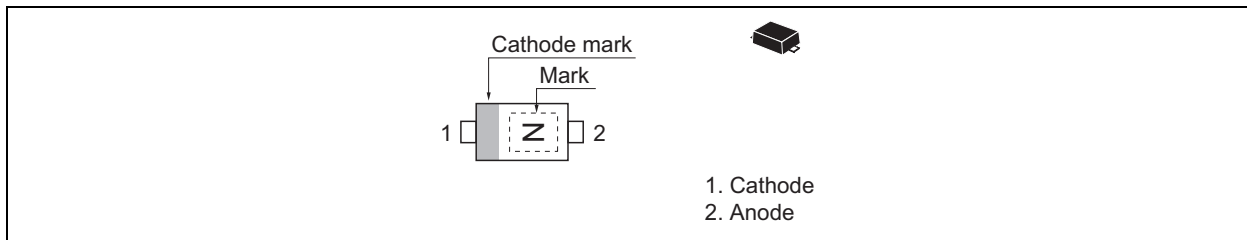
Features

- Adopting the trench structure improves low capacitance. ($C = 0.31 \text{ pF max}$)
- Low forward resistance. ($r_f = 1.5 \Omega \text{ max}$)
- 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
HVL147	N	EFP	PXSF0002ZA-A

Pin Arrangement



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	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	—	—	100	nA	$V_R = 30\text{ V}$
Forward voltage	V_F	—	—	1.00	V	$I_F = 10\text{ mA}$
Capacitance	C	—	—	0.31	pF	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$
Forward resistance	r_f	—	2.5	—	Ω	$I_F = 2\text{ mA}$, $f = 100\text{ MHz}$
		—	—	1.5		$I_F = 10\text{ mA}$, $f = 100\text{ MHz}$
ESD-Capability *1	—	100	—	—	V	$C = 200\text{ pF}$, $R = 0\ \Omega$, Both forward and reverse direction 1 pulse.

Notes: 1. Failure criterion ; $I_R > 100\text{ nA}$ at $V_R = 30\text{ V}$

2. 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

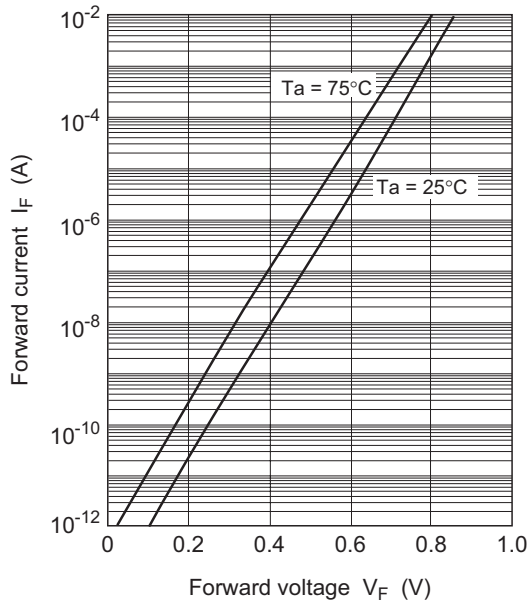


Fig.1 Forward current vs. Forward voltage

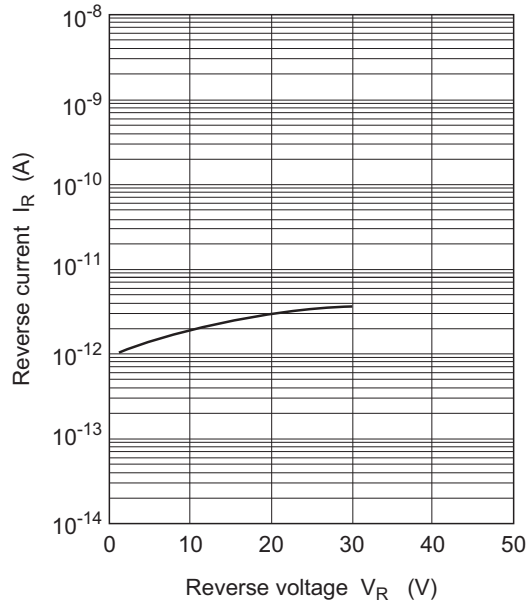


Fig.2 Reverse current vs. Reverse voltage

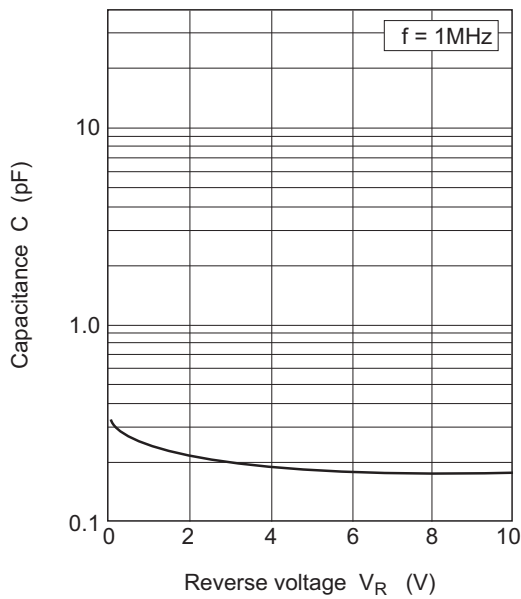


Fig.3 Capacitance vs. Reverse voltage

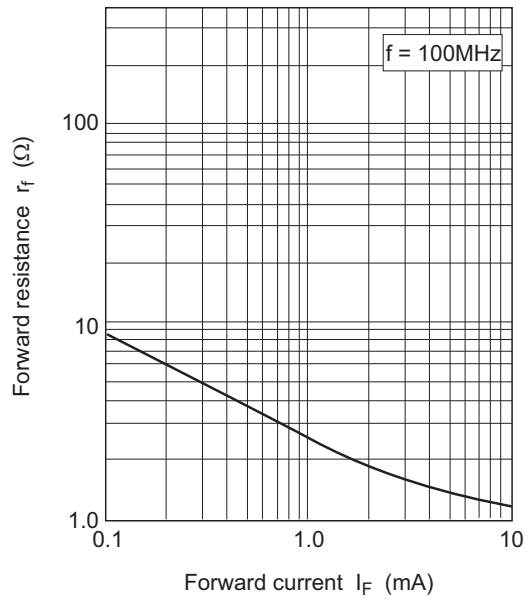
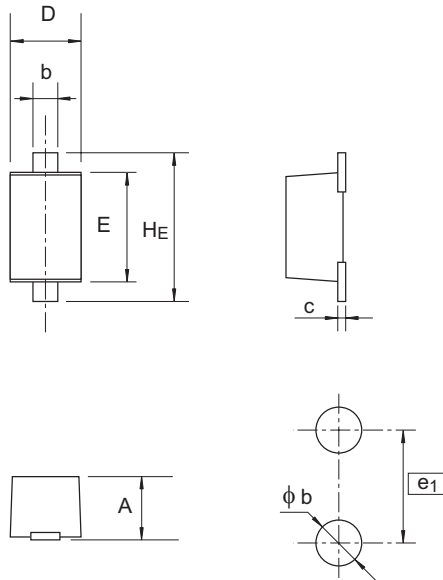


Fig.4 Forward resistance vs. Forward current

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
ϕb	—	0.40	—
e_1	—	1.00	—

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