

HVL147

Silicon Epitaxial Trench Pin Diode for Antenna Switching

REJ03G0393-0300
Rev.3.00
Jan 13, 2006

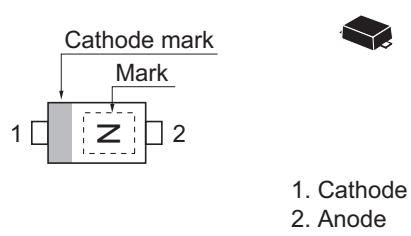
Features

- 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 V
Forward voltage	V _F	—	—	1.00	V	I _F = 10 mA
Capacitance	C	—	—	0.31	pF	V _R = 1 V, f = 1 MHz
Forward resistance	r _f	—	2.5	—	Ω	I _F = 2 mA, f = 100 MHz
		—	—	1.5		I _F = 10 mA, f = 100 MHz
ESD-Capability * ¹	—	100	—	—	V	C = 200 pF, R = 0 Ω, Both forward and reverse direction 1 pulse.

Notes: 1. Failure criterion ; I_R > 100 nA at V_R = 30 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

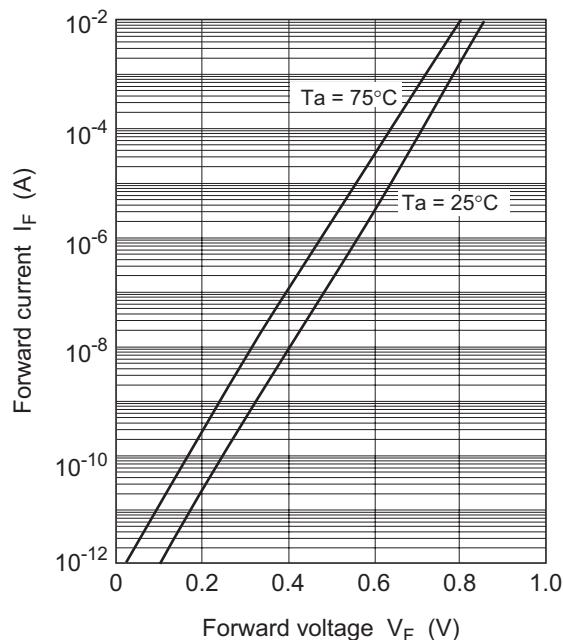


Fig.1 Forward current vs. Forward voltage

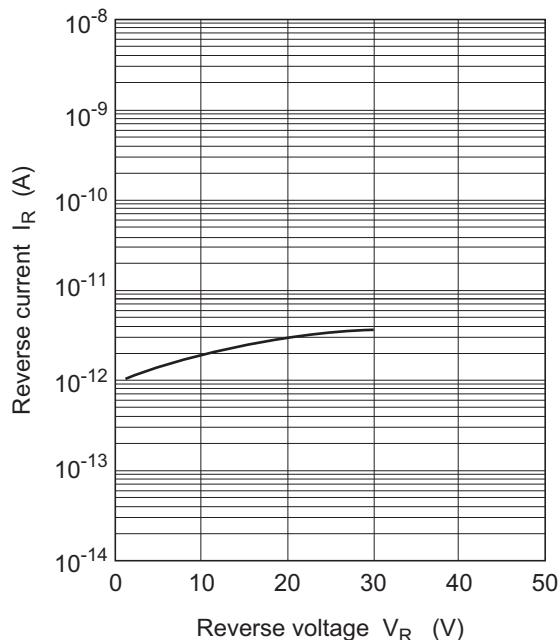


Fig.2 Reverse current vs. Reverse voltage

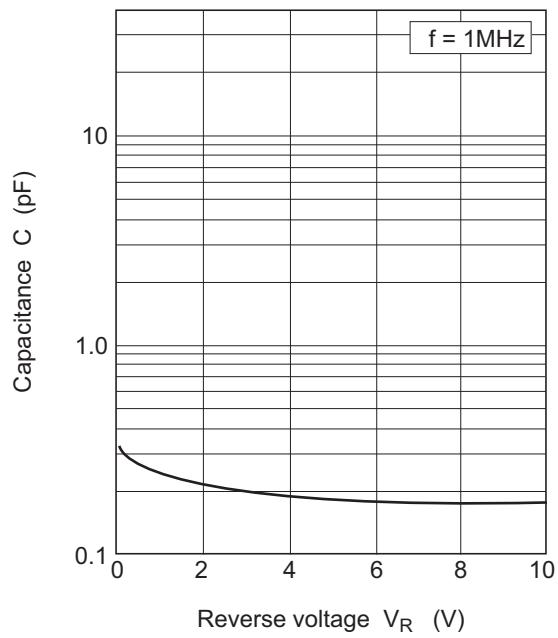


Fig.3 Capacitance vs. Reverse voltage

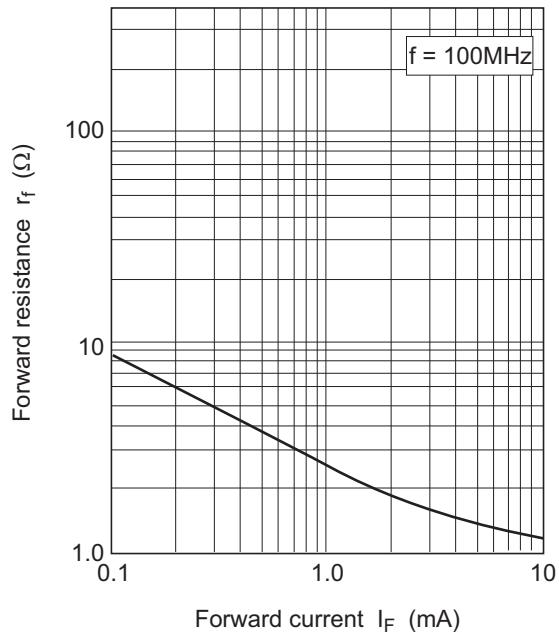
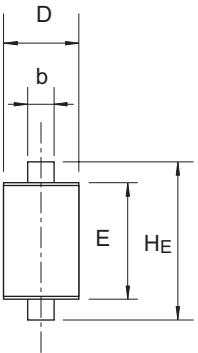


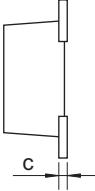
Fig.4 Forward resistance vs. Forward current

Package Dimensions

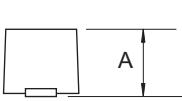
Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
EFP	—	PXSF0002ZA-A	EFP / EFPV	0.0007g



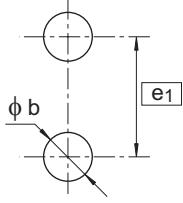
3D Perspective View of the EFP package showing dimensions D, b, E, and H_E .



Top View of the EFP package showing dimension c.



Side View of the EFP package showing dimension A.



Bottom View of the EFP package showing dimension e_1 .

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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