

# HVC190

## Silicon Epitaxial Planar PIN Diode for Attenuator

REJ03G0441-0200  
Rev.2.00  
Oct 08, 2009

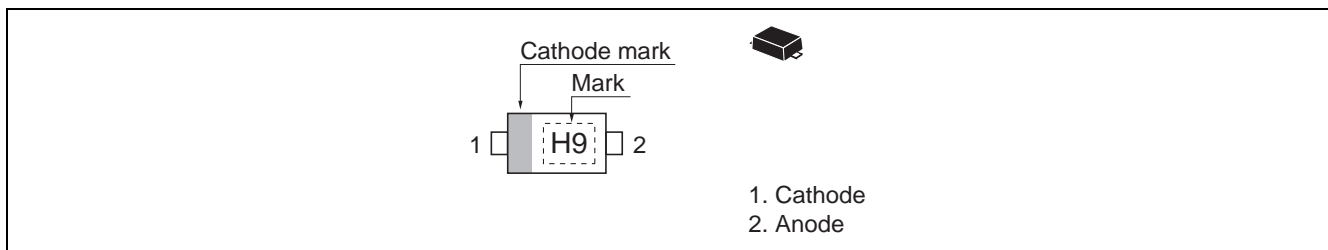
### Features

- Low capacitance. ( $C=0.35\text{pF}$  max)
- Low forward resistance ( $r_f=3.0\Omega$  typ.)
- Ultra small Flat lead Package (UFP) is suitable for surface mount design.

### Ordering Information

Part No	Laser Mark	Package Name	Package Code	Taping Abbreviation (Quantity)
HVC190 TRF HVC190 KRF	H9	UFP	PWSF0002ZA-A	TRF (4,000 pcs / reel) KRF (8,000 pcs / reel)

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	$V_R$	50	V
Forward current	$I_F$	50	mA
Power dissipation	$P_d$	150	mA
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Forward voltage	$V_F$	—	—	1.0	V	$I_F = 50 \text{ mA}$
Reverse current	$I_R$	—	—	100	nA	$V_R = 50 \text{ V}$
Capacitance	C	—	—	0.35	pF	$V_R = 50 \text{ V}, f = 1 \text{ MHz}$
Forward resistance	$r_f$	—	3.0	5.0	$\Omega$	$I_F = 10 \text{ mA}, f = 100 \text{ MHz}$
ESD-Capability *1	—	200	—	—	V	C = 200 pF, Both forward and reverse direction 1 pulse

Note: 1. Failure criterion ;  $I_R \geq 200 \text{ nA}$  at  $V_R = 50 \text{ V}$

Main Characteristics

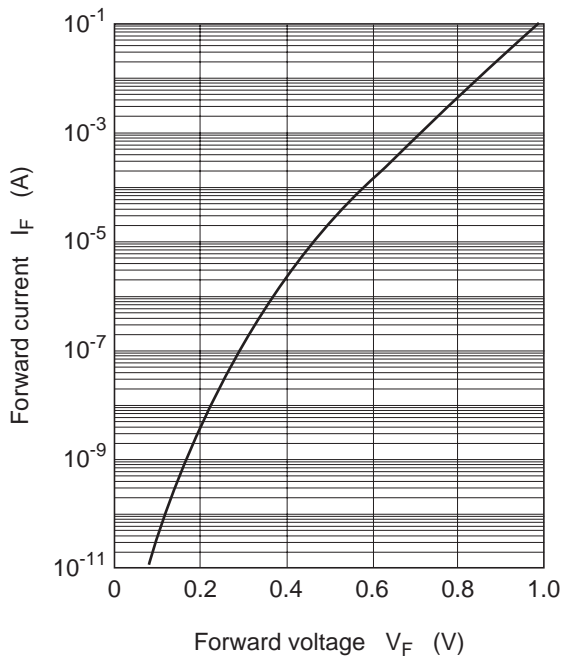


Fig.1 Forward current vs. Forward voltage

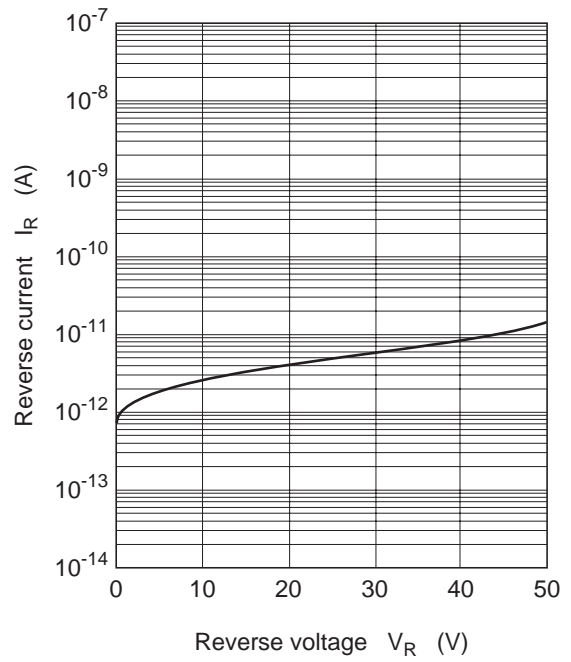


Fig.2 Reverse current vs. Reverse voltage

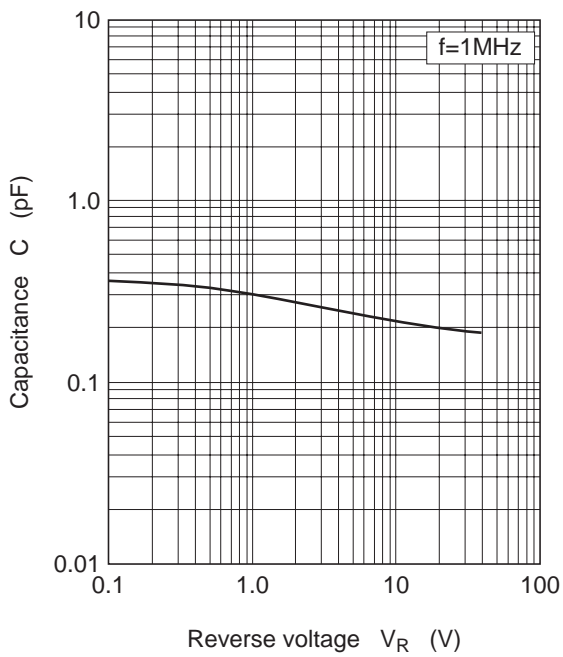


Fig.3 Capacitance vs. Reverse voltage

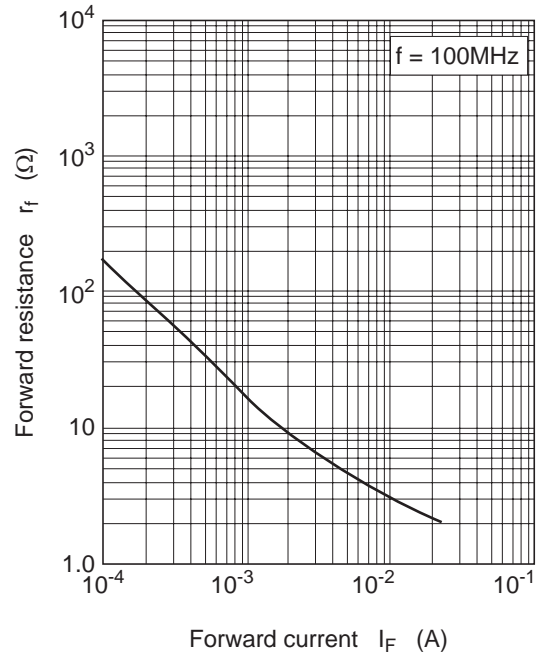
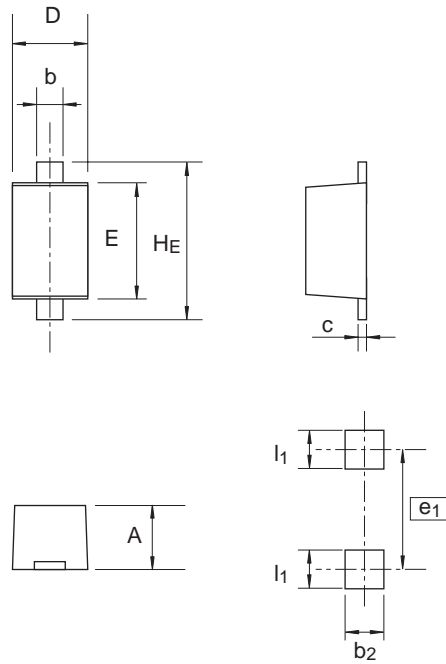


Fig.4 Forward resistance vs. Forward current

### Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
UFP	SC-79	PWSF0002ZA-A	UFP / UFPV	0.0016g



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.08	0.13	0.18
D	0.70	0.80	0.90
E	1.10	1.20	1.30
$H_E$	1.50	1.60	1.70
$b_2$	—	0.80	—
$e_1$	—	1.70	—
$l_1$	—	0.60	—

Notes:

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