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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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HVU145

Silicon Epitaxial Planar Pin Diode for Antenna Switching

REJ03G0437-0200
 (Previous: ADE-208-1508A)
 Rev.2.00
 Dec 07, 2004

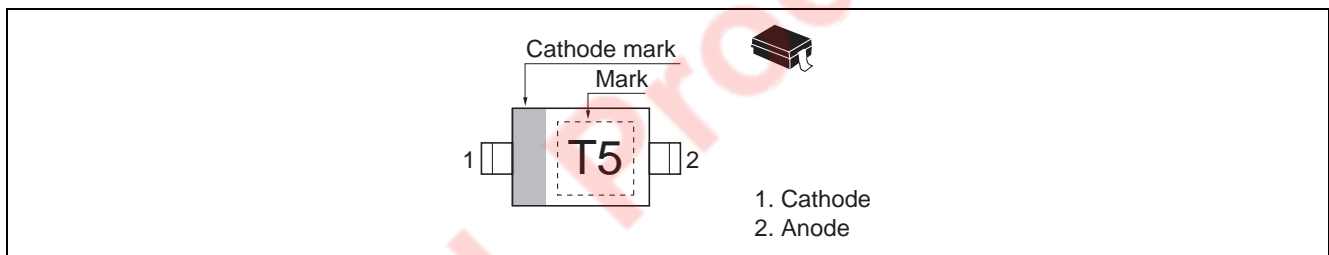
Features

- An optimal solution for antenna switching in mobile phones.
- Low capacitance. ($C = 0.45 \text{ pF max}$)
- Low forward resistance. ($r_f = 1.8 \Omega \text{ max}$)
- Ultra small Resin Package (URP) is suitable for surface mount design.

Ordering Information

Type No.	Laser Mark	Package Code
HVU145	T5	URP

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Reverse voltage	V_R	60	V
Forward current	I_F	50	mA
Power dissipation	P_d	150	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	$V_R = 60\text{ V}$
Forward voltage	V_F	—	—	0.9	V	$I_F = 2\text{ mA}$
Capacitance	C	—	—	0.45	pF	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$
Forward resistance	r_f	—	—	1.8	Ω	$I_F = 10\text{ mA}$, $f = 100\text{ MHz}$
ESD-Capability *1	—	100	—	—	V	C = 200 pF, R = 0 Ω , Both forward and reverse direction 1 pulse.

Note: 1. Failure criterion ; $I_R > 100\text{ nA}$ at $V_R = 60\text{ V}$

Main Characteristic

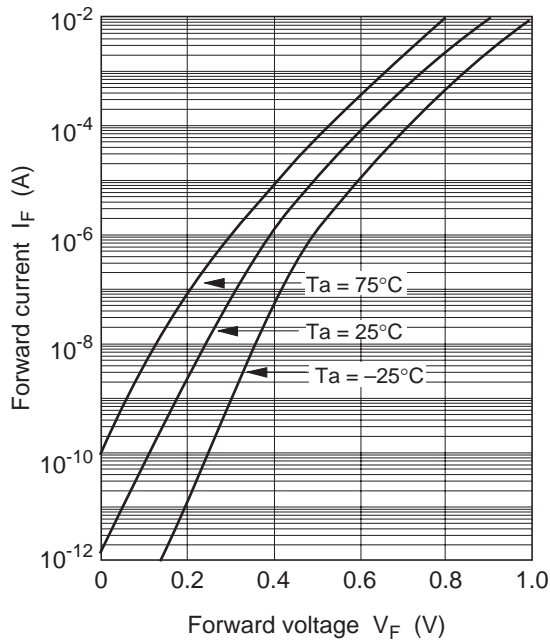


Fig.1 Forward current vs. Forward voltage

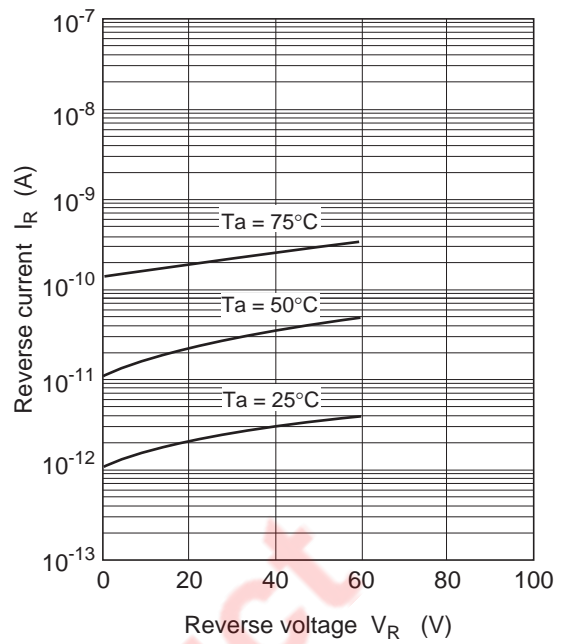


Fig.2 Reverse current vs. Reverse voltage

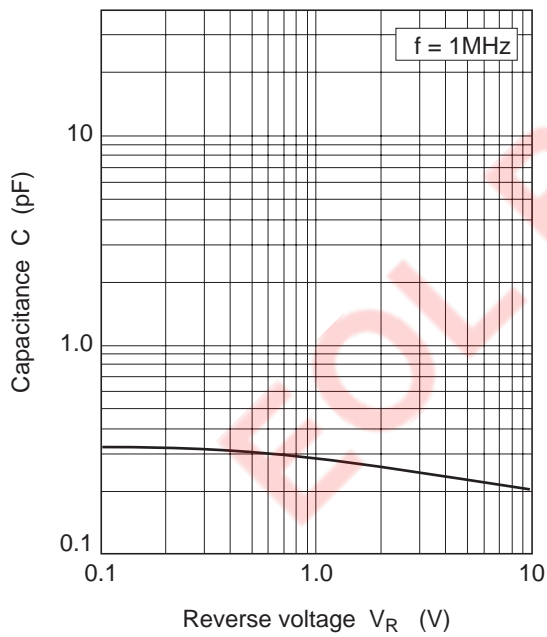


Fig.3 Capacitance vs. Reverse voltage

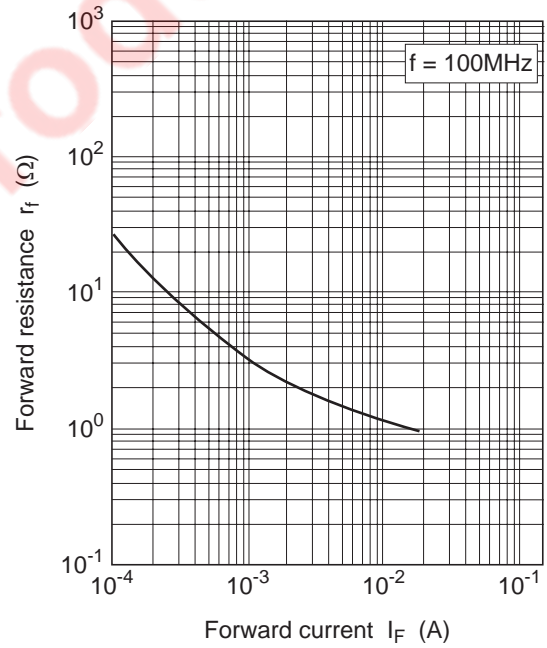


Fig.4 Forward resistance vs. Forward current

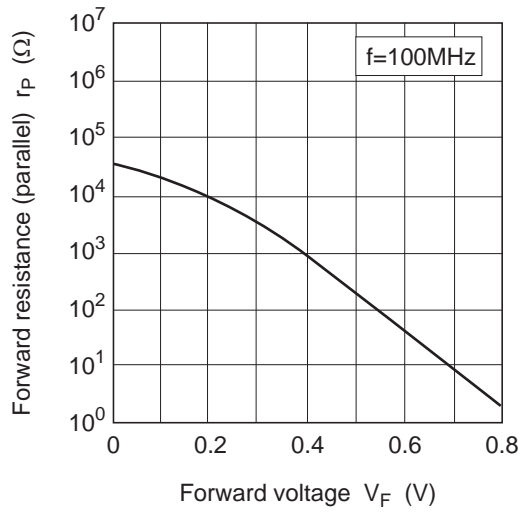


Fig.5 Forward resistance (parallel) vs. Forward voltage

EOL Product

Package Dimensions

Technical drawing showing top and side views of the HVU145 package with dimensions in millimeters:

- Top view width: 1.7 ± 0.15 mm
- Top view length: 2.5 ± 0.15 mm
- Side view height: 0.3 ± 0.15 mm
- Side view total height: 1.25 ± 0.15 mm
- Side view lead height: $0 - 0.10$ mm
- Side view lead width: 0.9 ± 0.15 mm

As of January, 2003
Unit: mm

Package Code	URP
JEDEC	Conforms
JEITA	—
Mass (reference value)	0.004 g

EOL Product

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

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