

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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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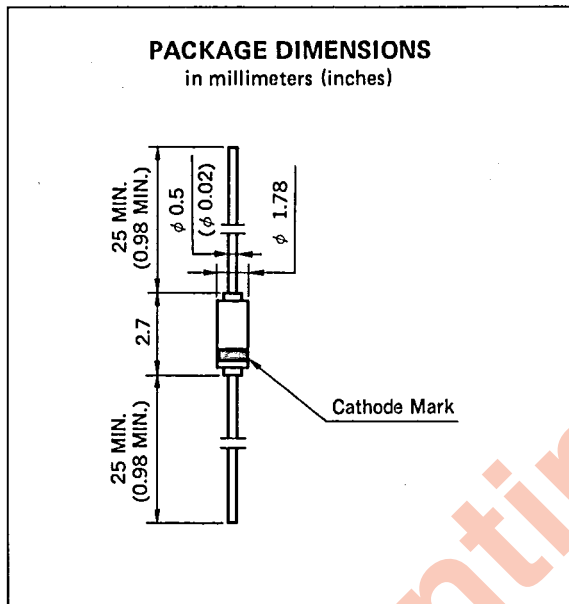
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VHF/UHF RF ATTENUATING AND SWITCHING SILICON PIN DIODE

DESCRIPTION AND APPLICATIONS

The 1SV157 silicon PIN diode, especially designed for VHF/UHF band switching, attenuating.

The RF resistance of a PIN diode is a function of the current flowing in the diode. The current controlled resistors are specified for use in control applications such as ATT, AGC, RF modulators.



FEATURES

- Large dynamic range.
- Low series resistance.
 $R_s = 5.0 \Omega$ TYP. @ $I_F = 10$ mA, $f = 100$ MHz
- Low capacitance.
 $C_t = 0.8$ pF @ $V_R = 20$ V, $f = 1$ MHz

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

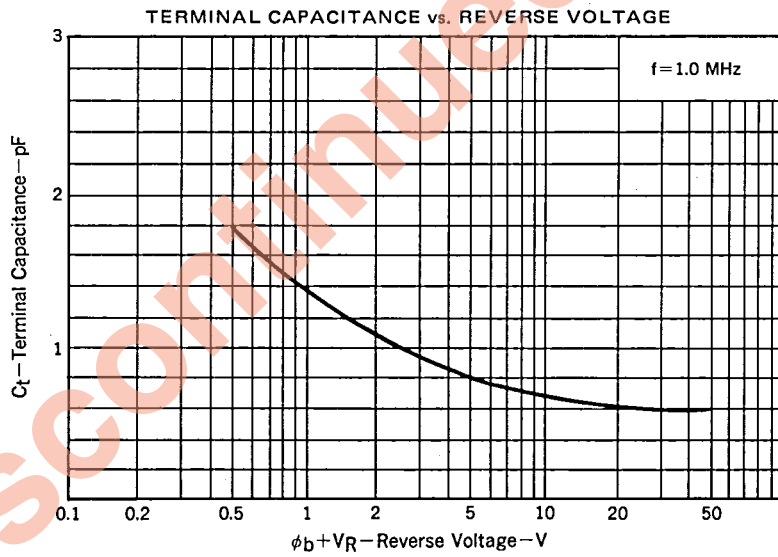
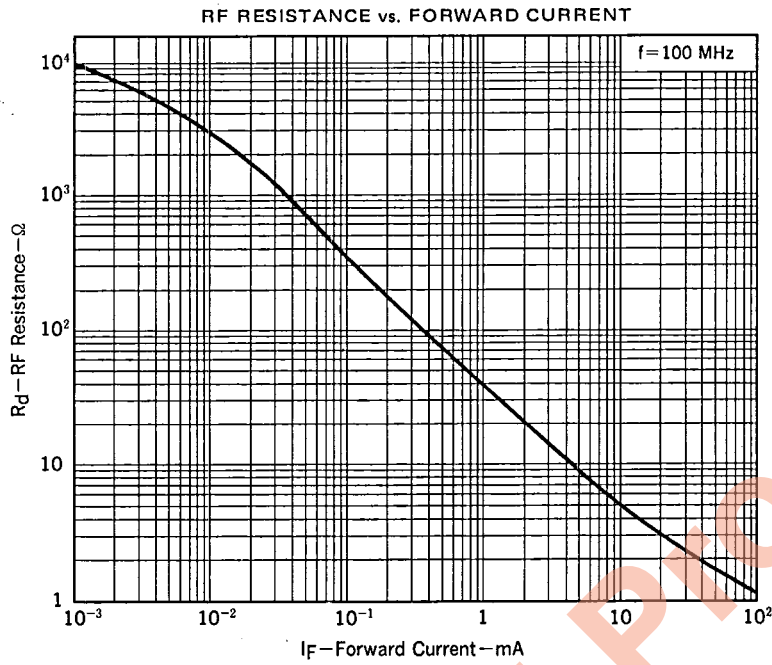
Reverse Voltage	V_R	50	V
Forward Current	I_F	50	mA
Peak Forward Current	I_{FM}	150	mA
DC Power Dissipation	P_D	250	mW
Junction Temperature	T_j	+175	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +175	$^\circ\text{C}$
Solder Temperature (Note)		260	$^\circ\text{C}$

Note : Less than 5 seconds, more than 1.5 mm off the lead connection.

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	V_F		0.9	1.2	V	$I_F = 50$ mA
Reverse Voltage	V_R	50			V	$I_R = 10$ μ A
Capacitance	C_t		0.6	0.9	pF	$V_R = 20$ V, $f = 1.0$ MHz
Series Resistance	r_{ds}	3.0	5.0	7.0	Ω	$I_F = 10$ mA, $f = 100$ MHz
Parallel Resistance	r_{dp}	1.0	3.0	5.0	k Ω	$I_F = 10$ μ A, $f = 100$ MHz

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



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