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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RENESAS

UHF DETECTOR & MIXER DIODES

1SS237, 1SS237(1)

UHF MIXER

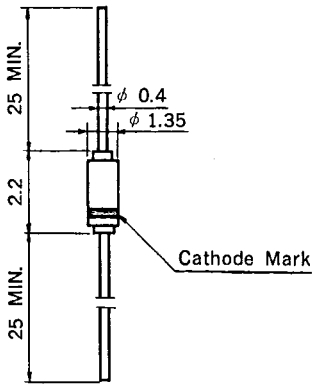
SILICON EPITAXIAL SCHOTTKY BARRIER DIODE

DESCRIPTION AND APPLICATIONS

The 1SS237 is silicon epitaxial schottky barrier diode, especially designed for mixing, switching, log or A-D converting, frequency discriminating sampling and wave shaping.

PACKAGE DIMENSIONS

in millimeters



FEATURES

- Small size glass package. (DO-34 TYPE; L = 2.2 mm)
- High breakdown voltage: V_R = 10 V MIN. at I_R = 10 μA
- Bach matched.

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

Reverse Voltage	V_R	10	V
Forward Current	I_F	35	mA
DC Power Dissipation	P_D	250	mW
Junction Temperature	T_j	+175	°C
Storage Temperature	T_{stg}	−65 to +175	°C
Reverse Burnout*	B_o	2.0	erg

Note* : Capacitor charge method C(charge) = 25 pF

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	1SS237			1SS237(1)			UNIT	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Reverse Voltage	V_R	10			10			V	I_R = 10 μA
Reverse Current	I_R			100			100	nA	V_R = 5.0 V
Forward Voltage	V_{F1}	0.33		0.45				V	I_F = 1.0 mA
Forward Voltage	V_{F2}				0.48		0.6	V	I_F = 10 mA
Forward Current	I_F	35						mA	V_F = 1.0 V
Capacitance	C_t		0.8	1.0		0.8	1.0	pF	V_R = 0, f = 1.0 MHz
Delta Forward Voltage	ΔV_{F2}**						10	mV	I_F = 10 mA
Delta Capacitance	ΔC_t**						0.2	pF	V_R = 0, f = 1.0 MHz
Noise Figure	NF			12.5			12.5	dB	f = 855 MHz, f_{IF} = 45 MHz N_{IF} = 3.7 dB, I_O = 2 mA

Note** : Difference of V_F, C_t.

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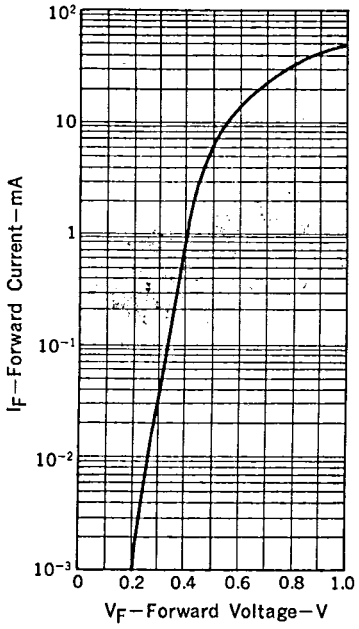
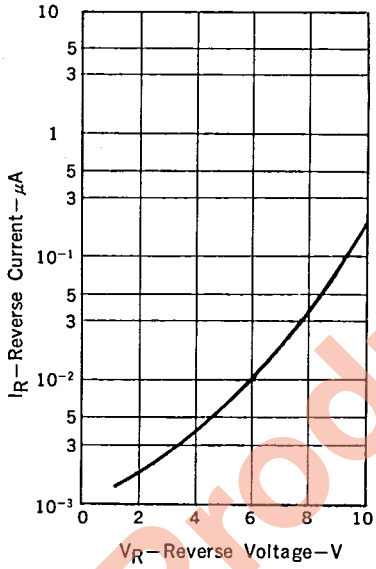
TYPICAL CHARACTERISTICS (T_a = 25 °C)

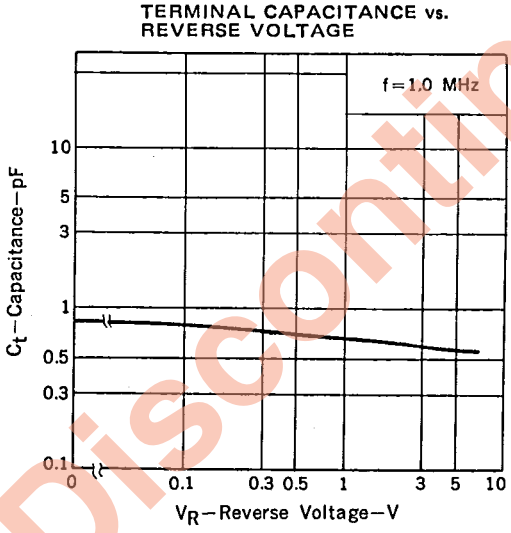
FORWARD CURRENT vs.
FORWARD VOLTAGE



REVERSE CURRENT vs.
REVERSE VOLTAGE



TERMINAL CAPACITANCE vs.
REVERSE VOLTAGE



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