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

Phase-out/Discontinued

SILICON DIODES

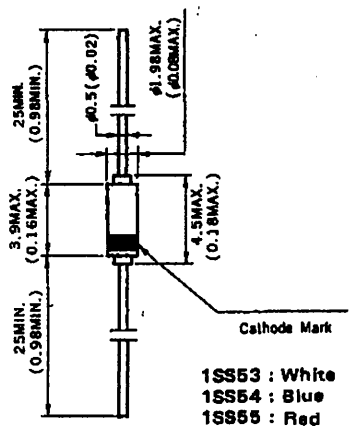
1SS53,1SS54,1SS55

GENERAL PURPOSE
SILICON EPITAXIAL PLANAR DIODES

DESCRIPTION

The 1SS53, 1SS54, and 1SS55 are silicon epitaxial planar diodes designed for general purpose applications.

PACKAGE DIMENSIONS
in millimeters (inches)



1SS53 : White
1SS54 : Blue
1SS55 : Red

EIAJ : SC-40
JEDEC : DO-35

FEATURES

- Miniature package
- High power dissipation
- Low leakage
- Low price

ABSOLUTE MAXIMUM RATINGS

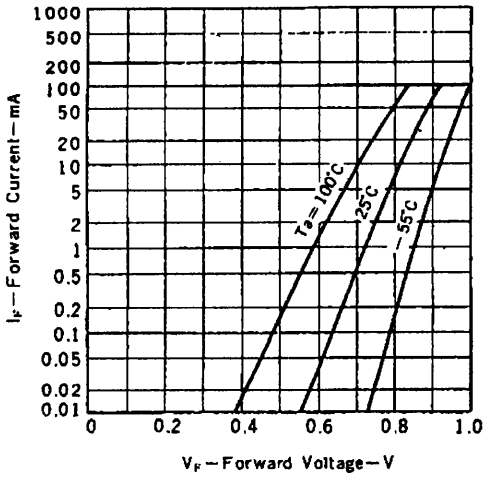
		1SS53	1SS54	1SS55	
Maximum Voltages and Currents (T_a = 25°C)					
Peak Reverse Voltage	V_{RM}	35	75	100	V
Reverse Voltage	V_R	30	50	75	V
Peak Forward Surge Current (1 μs)	$I_{F\ (surge)}$		2000		mA
Peak Forward Current	I_{FM}		300		mA
Average Rectified Current	I_O		100		mA
Maximum Power Dissipation (T_a = 25°C)					
Power Dissipation	P		500		mW
Maximum Temperatures					
Junction Temperature	T_j		200		°C
Storage Temperature	T_{stg}		-65 to +200		°C

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

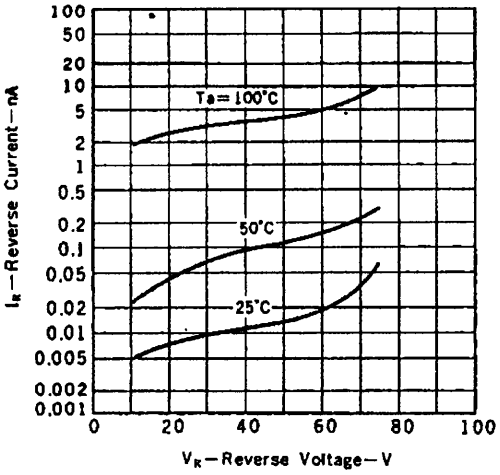
CHARACTERISTIC	SYMBOL	1SS53			1SS54			1SS55			UNIT	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Forward Voltage	V_F		0.7	0.8		0.7	0.8		0.7	0.8	V	I_F = 1.0 mA
	V_F		0.85	1.0		0.85	1.0		0.85	1.0	V	I_F = 30 mA
Reverse Current	I_R			0.1							μA	V_R = 30 V
	I_R						0.1				μA	V_R = 50 V
	I_R									0.1	μA	V_R = 75 V
Terminal Capacitance	C_t			6.0			5.0			4.0	pF	V_R = 0, f = 1.0 MHz
Reverse Recovery Time	t_{rr}		20	100		20	100		20	100	ns	I_F = 10 mA, V_R = 6.0 V, R_L = 100Ω

TYPICAL CHARACTERISTICS (T_a = 25°C)

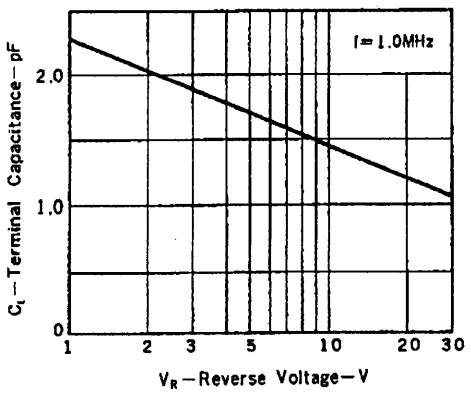
FORWARD CURRENT vs. FORWARD VOLTAGE



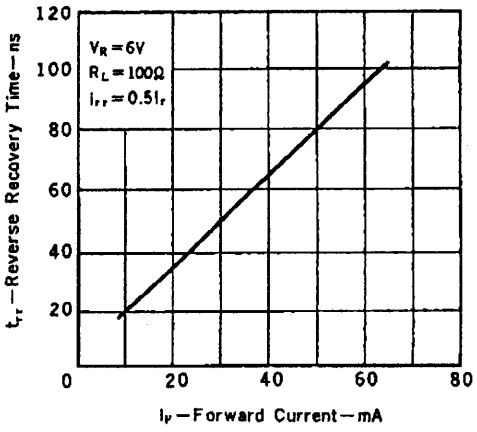
REVERSE CURRENT vs. REVERSE VOLTAGE (1SS55)



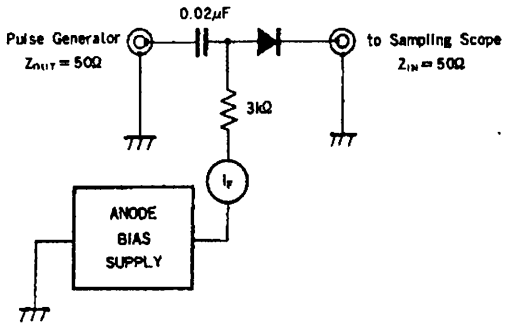
TERMINAL CAPACITANCE vs. REVERSE VOLTAGE

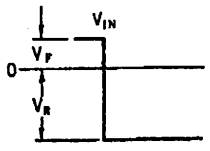


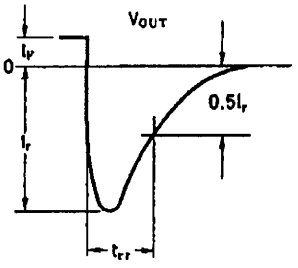
REVERSE RECOVERY TIME vs. FORWARD CURRENT



t_{rr} REVERSE RECOVERY TIME TEST CIRCUIT







Test Conditions : I_F = 10 mA, V_R = 6.0 V, R_L = 100Ω

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