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

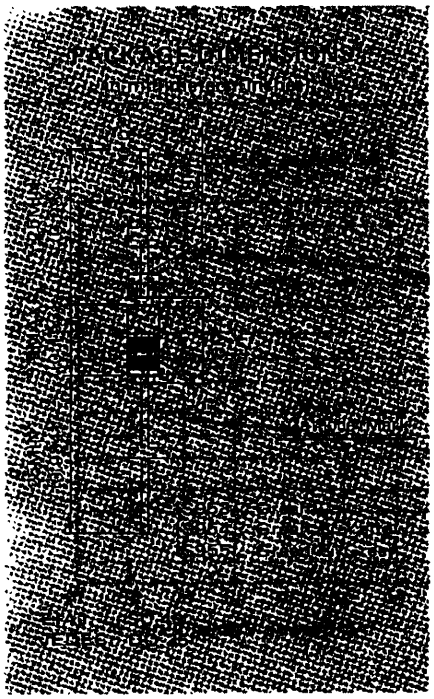
SILICON SWITCHING DIODES
1S953, 1S954, 1S955

HIGH SPEED SWITCHING
SILICON EPITAXIAL DIODES

cf 54.7.30

DESCRIPTION

The 1S953, 1S954 and 1S955 are silicon epitaxial diodes designed for high speed switching applications.



FEATURES

- Miniature Package
- High Power Dissipation
- Low Capacitance
- Fast Recovery Time
- Low Leakage
- High Conductance

ABSOLUTE MAXIMUM RATINGS

		1S953	1S954	1S955	
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	4000	4000	mA
Peak Forward Current	I_{FM}	300	600	600	mA
Average Rectified Current	I_O	100	200	200	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

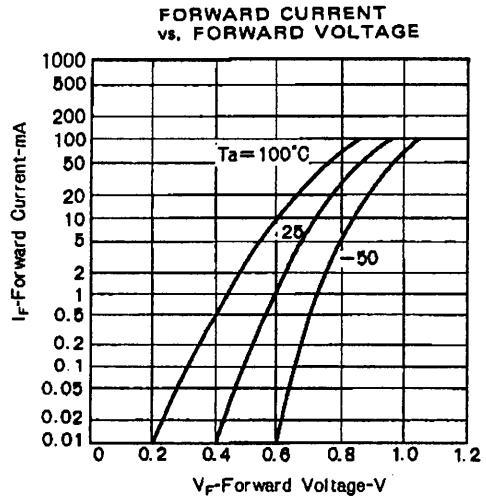
ELECTRICAL CHARACTERISTICS (T_a = 25°C)

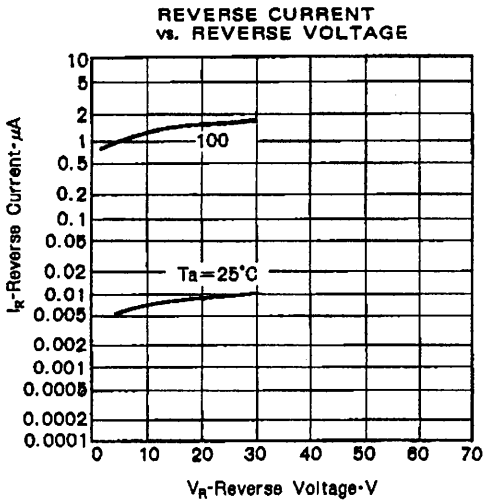
CHARACTERISTIC	SYMBOL	1S953			1S954			1S955			UNIT	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Forward Voltage	V_F		0.8	1.0							V	I_F = 30 mA
	V_F					0.9	1.0				V	I_F = 100 mA
	V_F								0.9	1.0	V	I_F = 150 mA
Reverse Current	I_R		0.01	0.1							μA	V_R = 30 V
	I_R					0.015	0.1				μA	V_R = 50 V
	I_R								0.03	0.1	μA	V_R = 75 V
Terminal Capacitance	C_t		2.0	4.0		2.0	3.5		2.0	3.0	pF	V_R = 0, f = 1.0 MHz
Reverse Recovery Time	t_{rr}		2.0	3.0		2.0	3.0		2.0	3.0	ns	I_F = 10 mA, V_R = 6.0 V, R_L = 100Ω

Phase-out/Discontinued

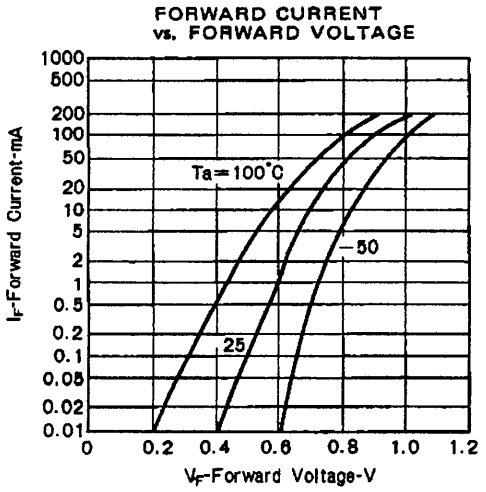
TYPICAL CHARACTERISTICS (T_a = 25°C)

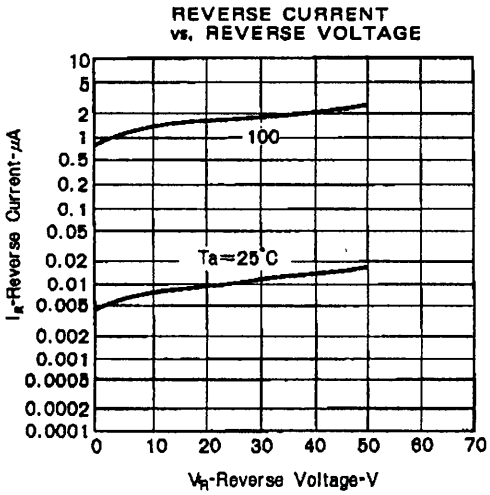
1S953



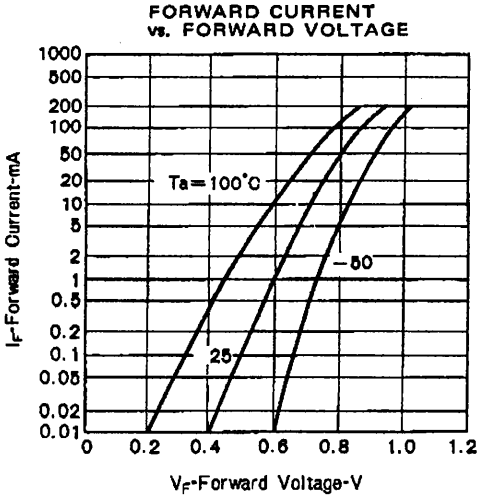


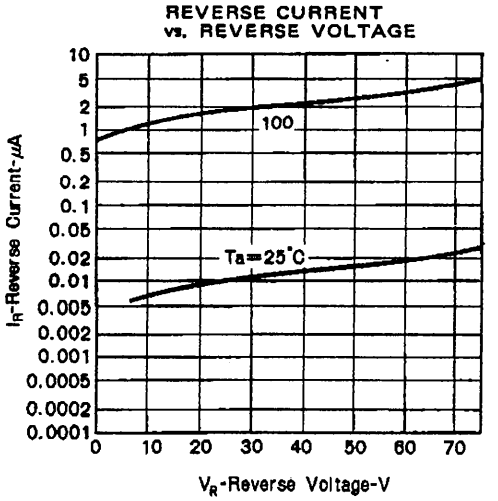
1S954



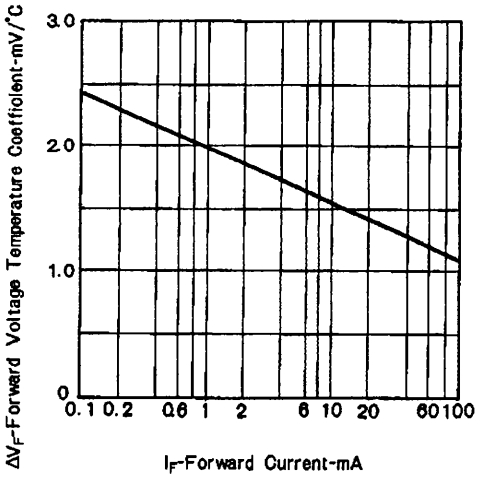


1S955

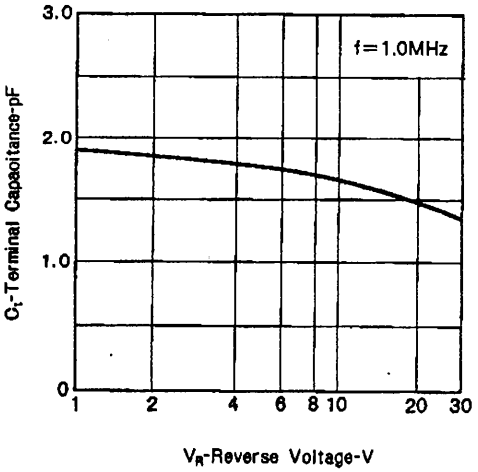




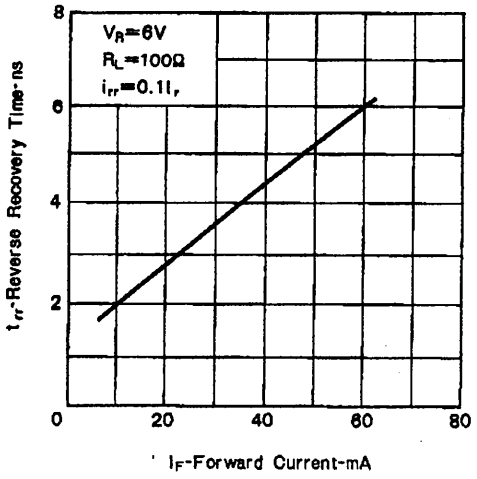
FORWARD VOLTAGE TEMPERATURE COEFFICIENT vs. FORWARD CURRENT



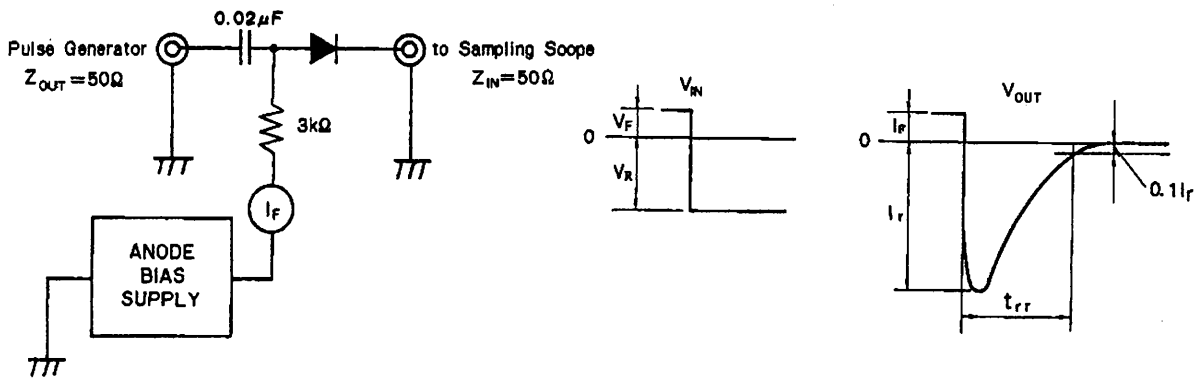
TERMINAL CAPACITANCE vs. REVERSE VOLTAGE



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

Phase-out/Discontinued

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