

To our customers,

Old Company Name in Catalogs and Other Documents

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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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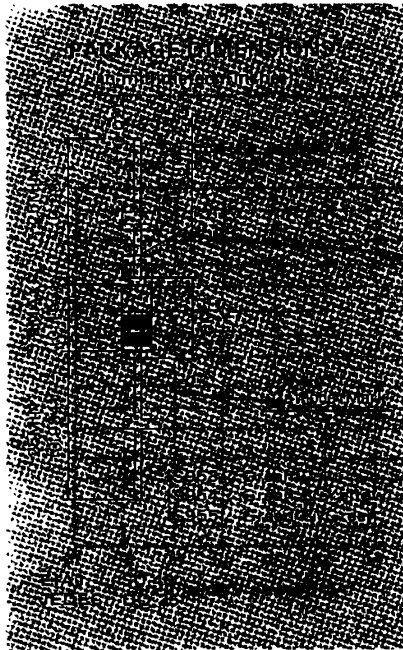
Phase-out/Discontinued

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 ($T_a = 25^\circ\text{C}$)					
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 ($T_a = 25^\circ\text{C}$)					
Power Dissipation	P		500		mW
Maximum Temperatures					
Junction Temperature	T_j		200		$^\circ\text{C}$
Storage Temperature	T_{stg}		-85 to +200		$^\circ\text{C}$

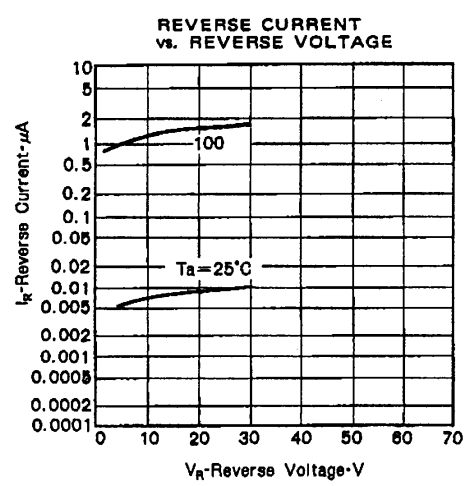
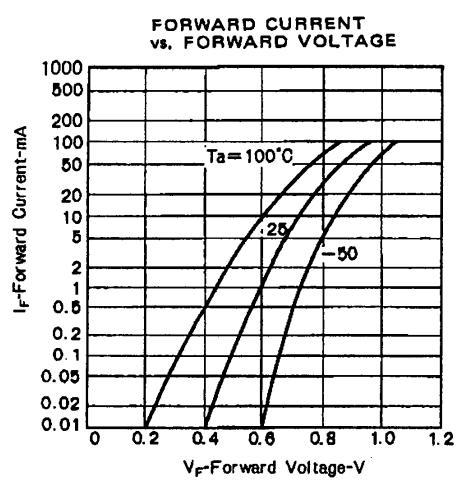
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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	$I_F = 30\text{ mA}$
	V_F					0.9	1.0				V	$I_F = 100\text{ mA}$
	V_F								0.9	1.0	V	$I_F = 150\text{ mA}$
Reverse Current	I_R		0.01	0.1							μA	$V_R = 30\text{ V}$
	I_R					0.015	0.1				μA	$V_R = 50\text{ V}$
	I_R								0.03	0.1	μA	$V_R = 75\text{ V}$
Terminal Capacitance	C_t		2.0	4.0		2.0	3.5		2.0	3.0	pF	$V_R = 0, f = 1.0\text{ MHz}$
Reverse Recovery Time	t_{rr}		2.0	3.0		2.0	3.0		2.0	3.0	ns	$I_F = 10\text{ mA}, V_R = 6.0\text{ V}, R_L = 100\Omega$

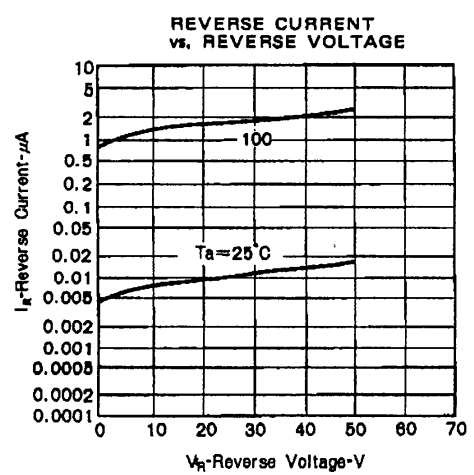
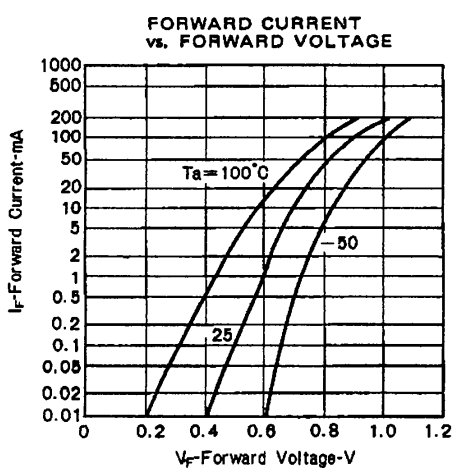
NEC reserves the right to make changes any time in order to improve design and supply the best product possible.

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

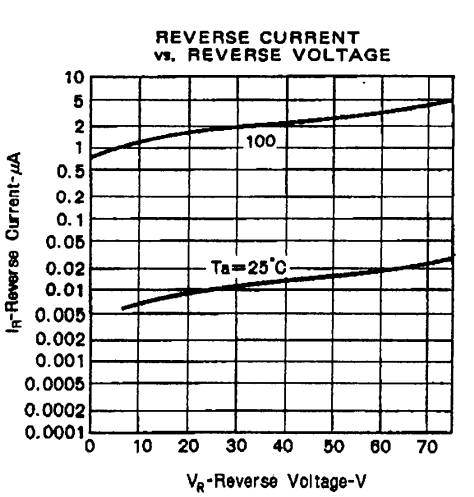
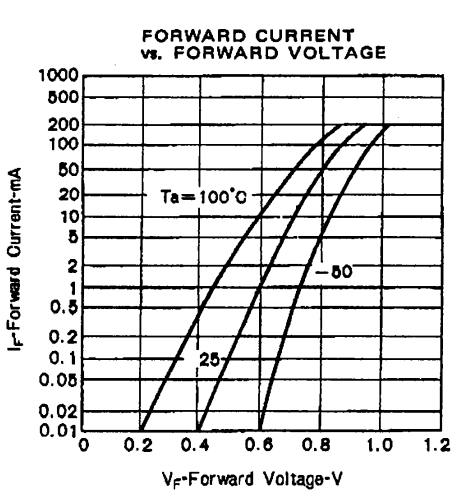
1S953

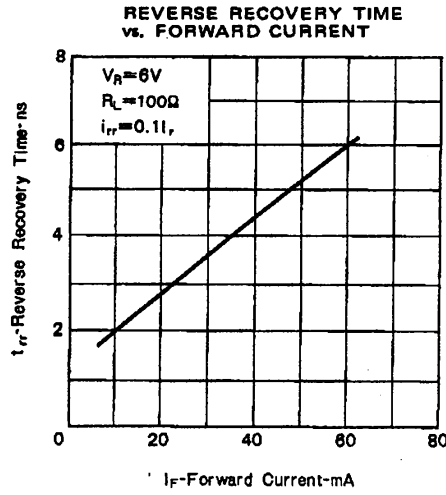
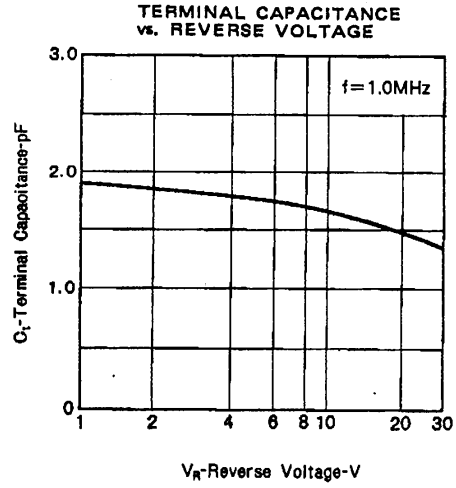
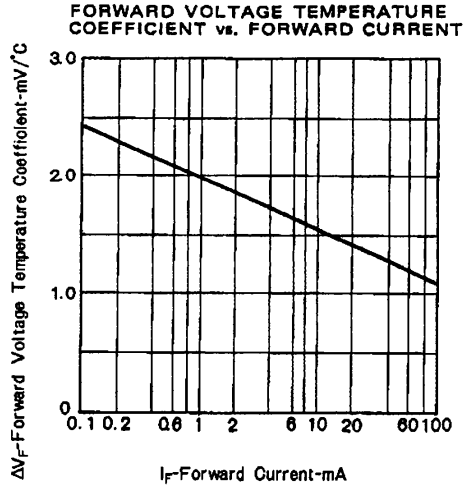


1S954

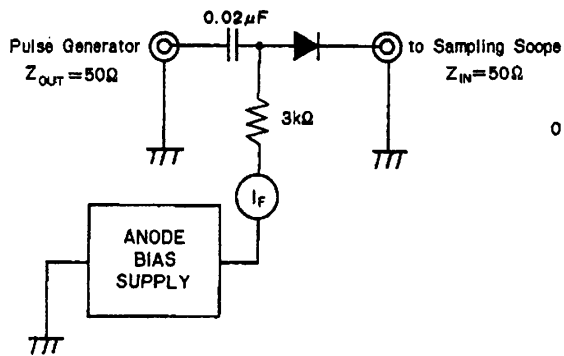


1S955

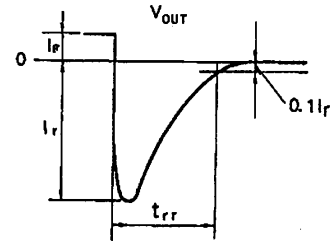
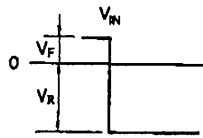




t_{rr} REVERSE RECOVERY TIME TEST CIRCUIT



Test Conditions : $I_F = 10\text{ mA}$, $V_R = 6.0\text{ V}$, $R_L = 100\Omega$



1S953, 1S954, 1S955

Phase-out/Discontinued

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