

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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Datasheet.Directory

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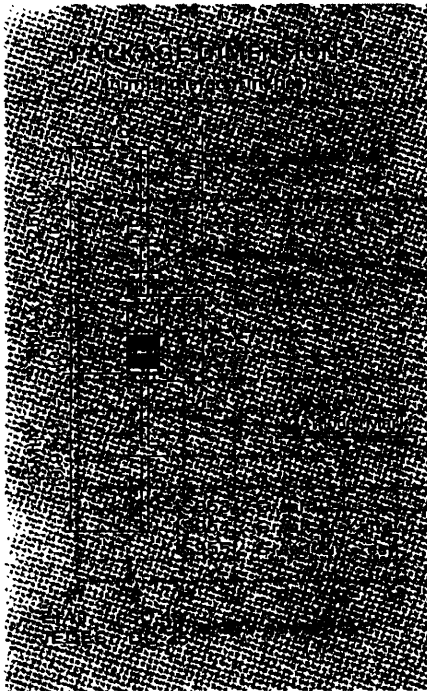
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HIGH SPEED SWITCHING SILICON EPITAXIAL DIODES

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}		-65 to +200		$^\circ\text{C}$

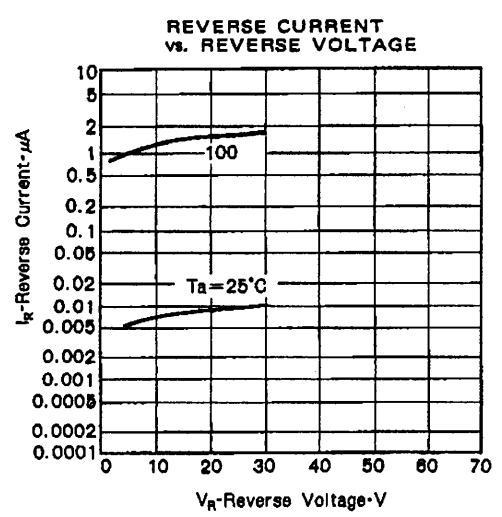
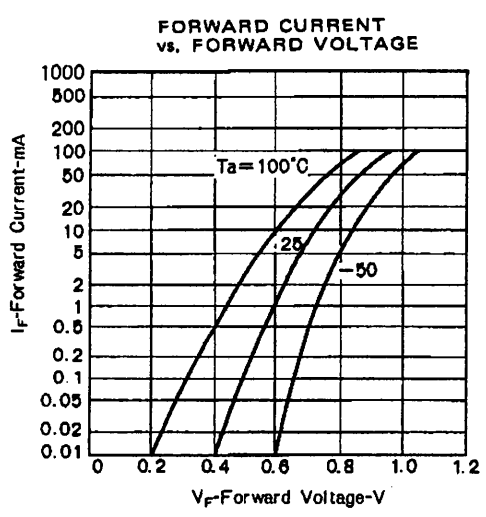
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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

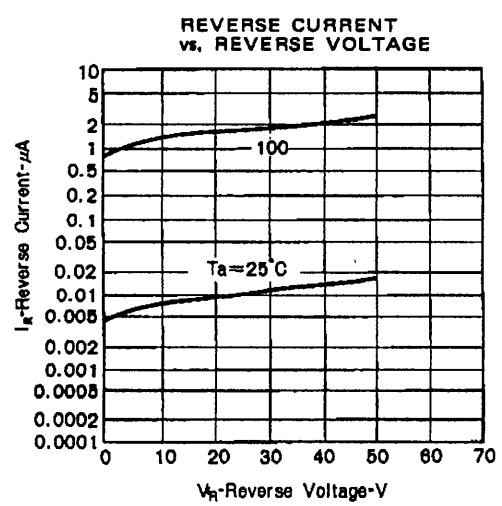
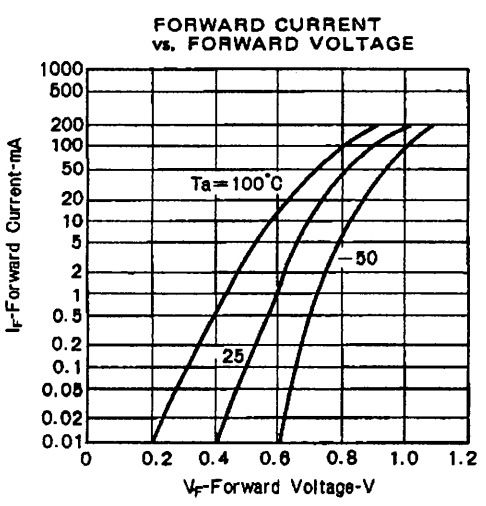
Phase-out/Discontinued

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

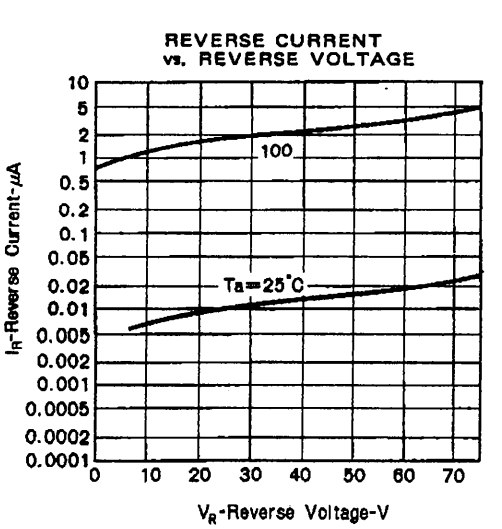
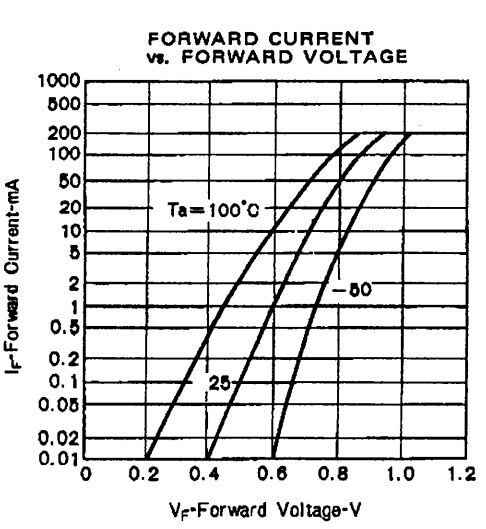
1S953

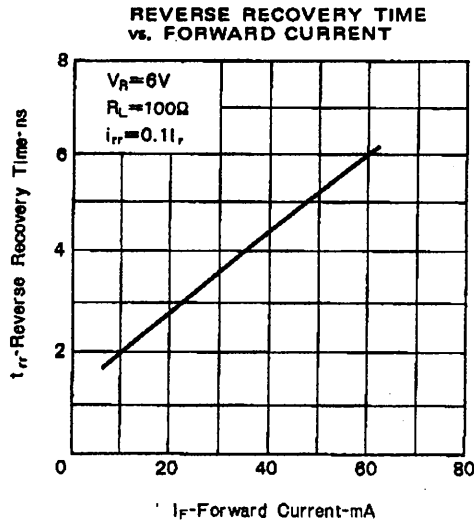
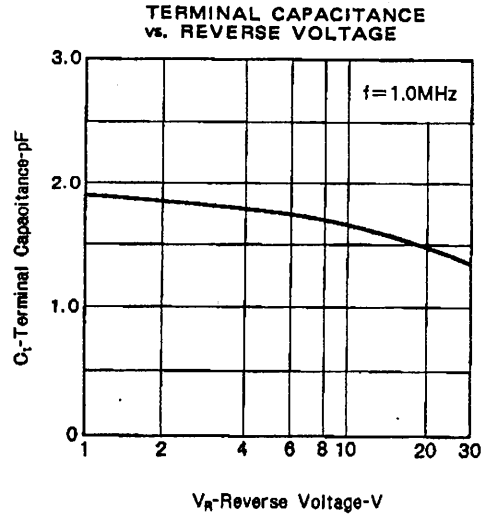
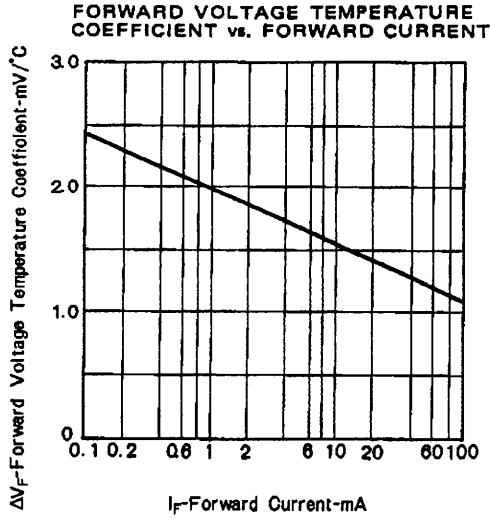


1S954

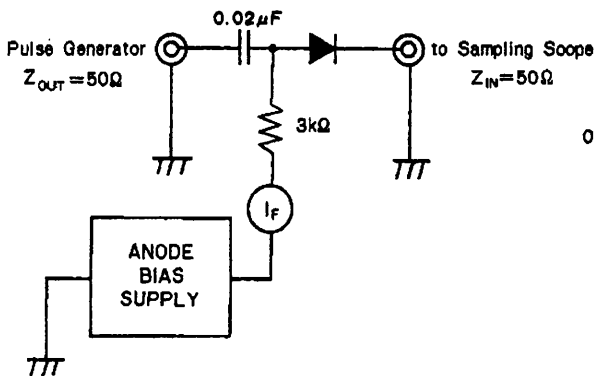


1S955

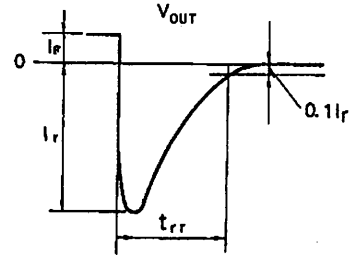
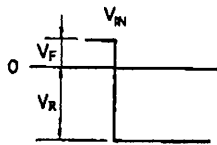




t_{rr} REVERSE RECOVERY TIME TEST CIRCUIT



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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