

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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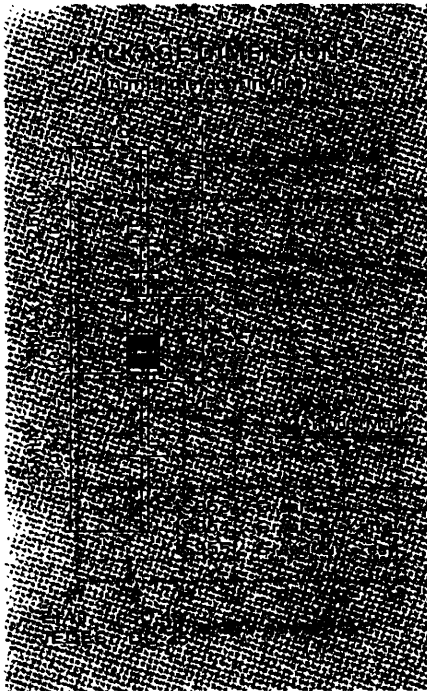
**Phase-out/Discontinued**

## 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	
<b>Maximum Voltages and Currents (<math>T_a = 25^\circ\text{C}</math>)</b>					
Peak Reverse Voltage	$V_{RM}$	35	75	100	V
Reverse Voltage	$V_R$	30	50	75	V
Peak Forward Surge Current (1 $\mu\text{s}$ )	$I_F$ (surge)	2000	4000	4000	mA
Peak Forward Current	$I_{FM}$	300	600	600	mA
Average Rectified Current	$I_O$	100	200	200	mA
<b>Maximum Power Dissipation (<math>T_a = 25^\circ\text{C}</math>)</b>					
Power Dissipation	P		500		mW
<b>Maximum Temperatures</b>					
Junction Temperature	$T_j$		200		$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-65 to +200		$^\circ\text{C}$

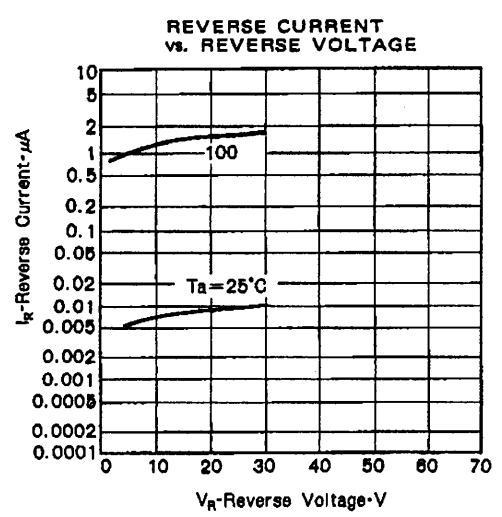
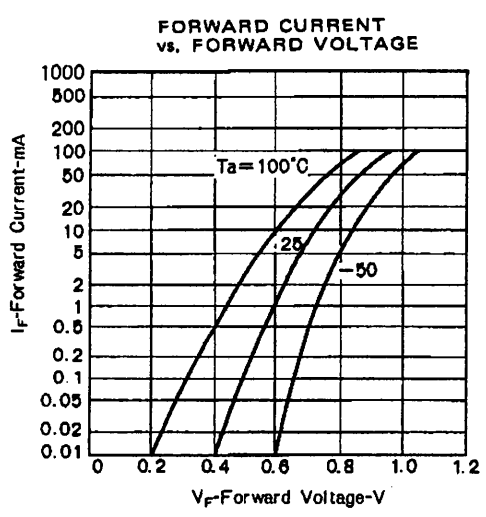
### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

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							$\mu\text{A}$	$V_R = 30\text{ V}$
	$I_R$					0.015	0.1				$\mu\text{A}$	$V_R = 50\text{ V}$
	$I_R$								0.03	0.1	$\mu\text{A}$	$V_R = 75\text{ V}$
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	$I_F = 10\text{ mA}, V_R = 6.0\text{ V}, R_L = 100\Omega$

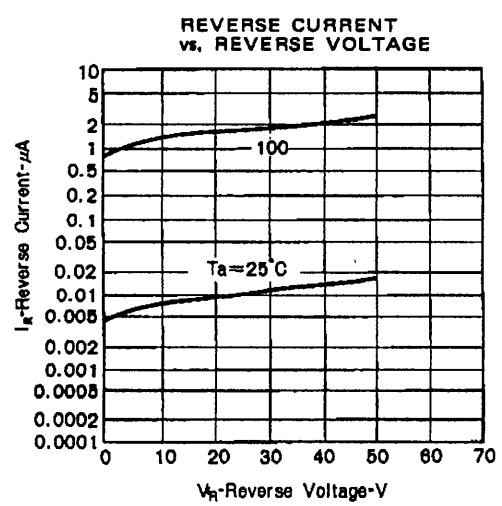
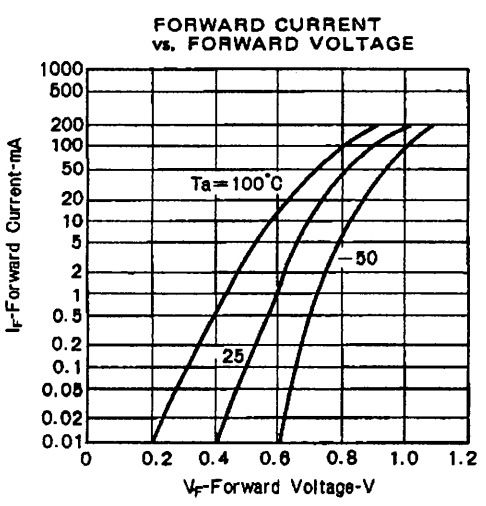
**Phase-out/Discontinued**

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

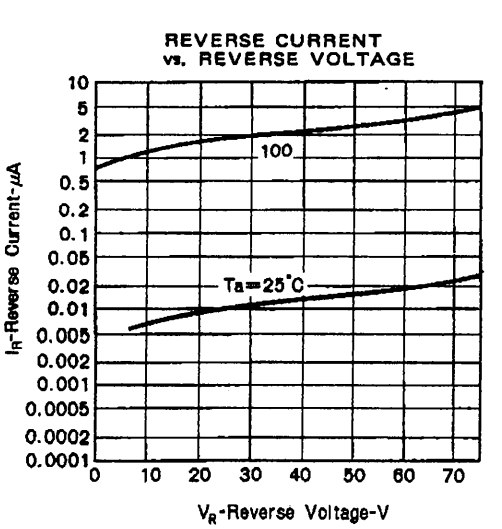
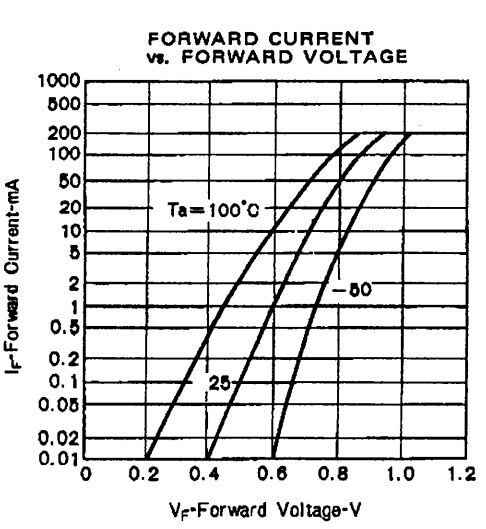
1S953

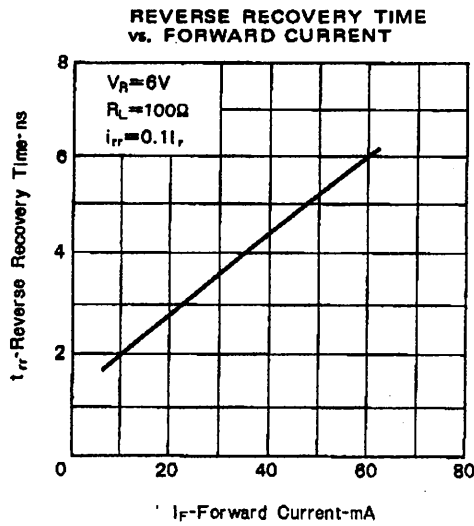
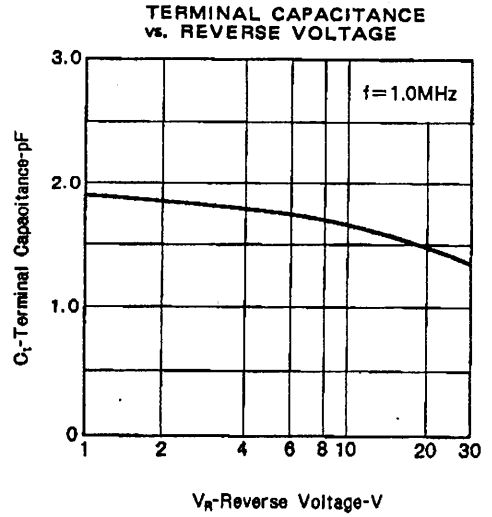
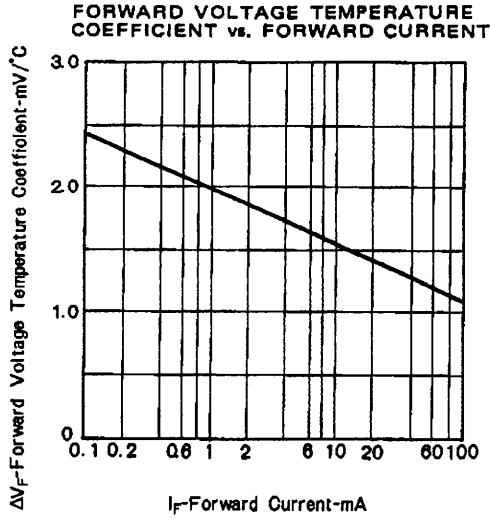


1S954

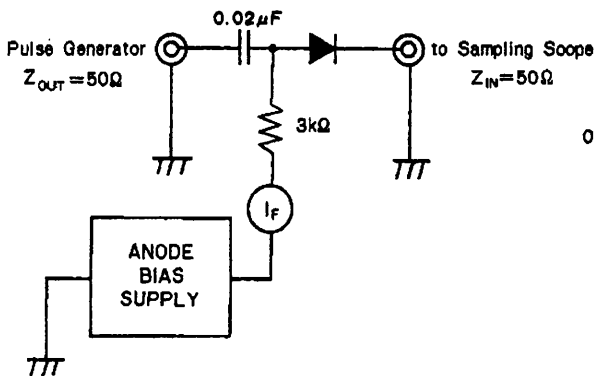


1S955

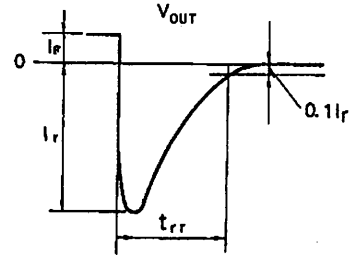
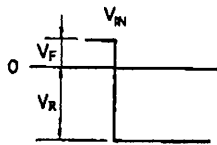




**$t_{rr}$  REVERSE RECOVERY TIME TEST CIRCUIT**



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



1S953, 1S954, 1S955

**Phase-out/Discontinued**

**NEC** ELECTRON DEVICE

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