DATA SHEET

NEC

SILICON SWITCHING DIODE
1SS304

HIGH SPEED SWITCHING
SILICON EPITAXIAL DOUBLE DIODE : COMMON CATHODE

FEATURES

- Low capacitance: C_t = 1.1 pF TYP.
- High speed switching: t_{rr} = 3.0 ns MAX.
- Wide applications including switching, limitter, clipper.
- Double diode configuration assures economical use.

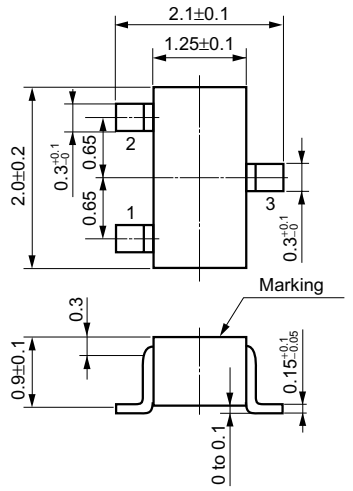
ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents (T_A = 25°C)

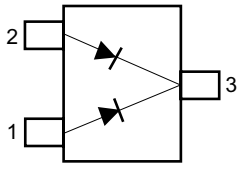
Peak Reverse Voltage	V_{RM}	75	V
DC Reverse Voltage	V_R	50	V
Surge Current (1 μs) **Note**	I_{FSM}	6.0	A
Surge Current (1 μs)	I_{FSM}	4.0	A
Peak Forward Current **Note**	I_{FM}	450	mA
Peak Forward Current	I_{FM}	300	mA
Average Rectified Current **Note**	I_O	150	mA
Average Rectified Current	I_O	100	mA
Maximum Temperatures			
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	–55 to + 150	°C
Thermal Resistance			
Junction to Ambient **Note**	$R_{th(j-a)}$	1.0	°C/mW
Junction to Ambient	$R_{th(j-a)}$	0.85	°C/mW

Note Both diodes loaded simultaneously.

PACKAGE DIMENSIONS (Unit: mm)



CONNECTION DIAGRAM (Top View)



1. Anode
2. Anode
3. Cathode

Marking : A6

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V_{F1}	I_F = 10 mA		0.67	1.0	V
	V_{F2}	I_F = 50 mA		0.75	1.1	V
	V_{F3}	I_F = 100 mA		0.85	1.2	V
Reverse Current	I_R	V_R = 50 V			0.1	μA
Capacitance	C_t	V_R = 0 V, f = 1.0 MHz		1.1	4.0	pF
Reverse Recovery Time	t_{rr}	See Test Circuit.			3.0	ns

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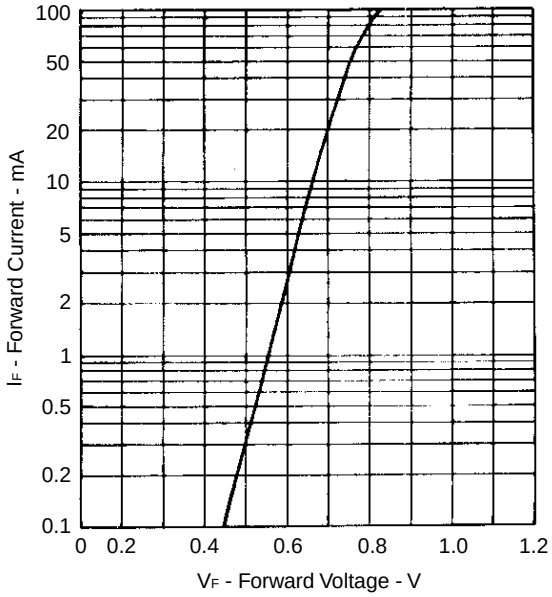
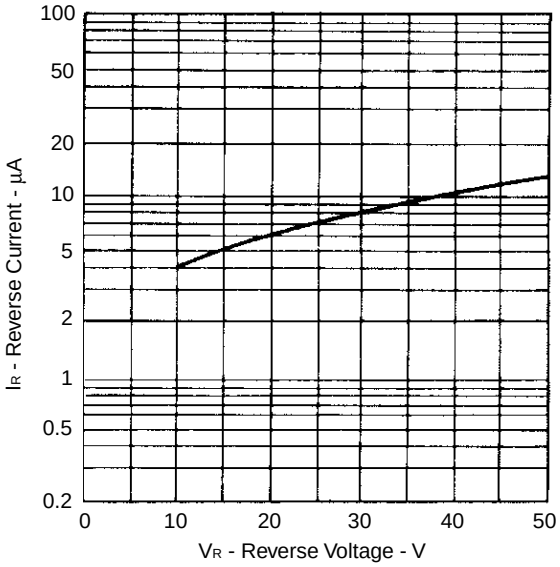
TYPICAL CHARACTERISTICS (T_A = 25°C)

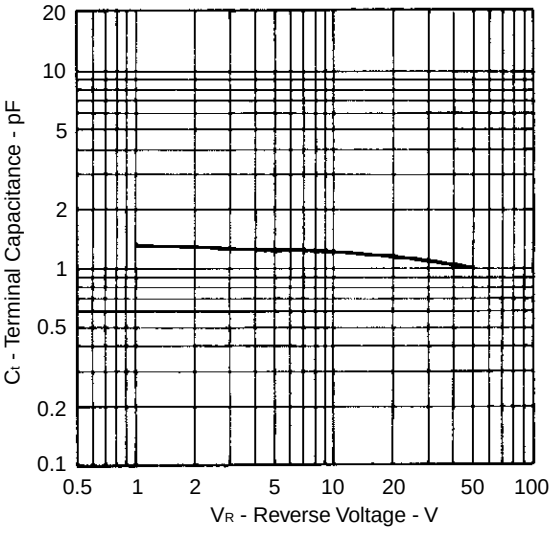
FORWARD CURRENT vs.
FORWARD VOLTAGE



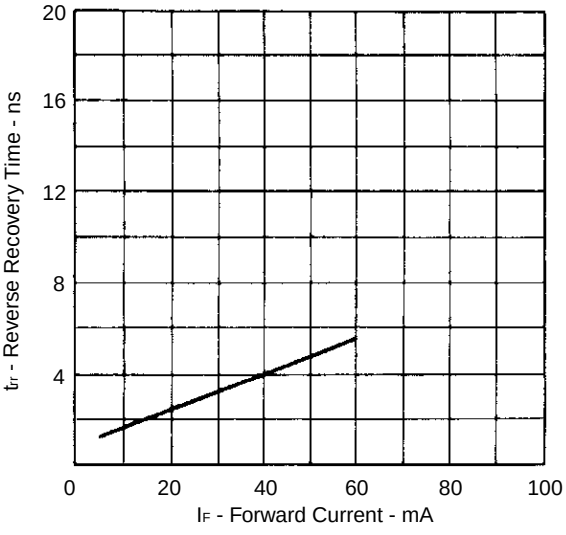
REVERSE CURRENT vs.
REVERSE VOLTAGE



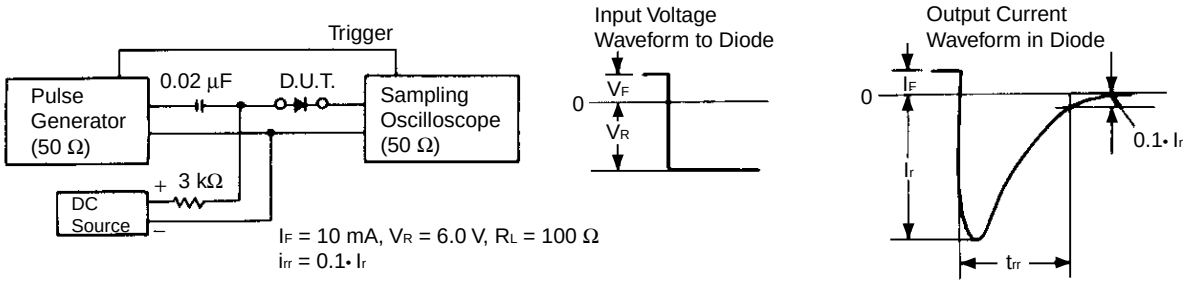
TERMINAL CAPACITANCE vs.
REVERSE VOLTAGE



REVERSE RECOVERY TIME vs.
FORWARD CURRENT



REVERSE RECOVERY TIME (t_{rr}) TEST CIRCUIT



I_F = 10 mA, V_R = 6.0 V, R_L = 100 Ω
i_{rr} = 0.1• I_r