

# SP4904

## 2.5GHz ÷4 PRESCALER

The SP4904 prescaler is one a range of very high speed low power prescalers for use in consumer applications such as satellite TV receivers. The device features a complementary output stage with on-chip current sources for the emitter follower outputs.

### FEATURES

- High Speed Operation 2.5GHz
- Silicon Technology for Low Phase Noise
- Very Low Power Dissipation 300mW
- Single 5V Supply Operation
- High Input Sensitivity
- Very Wide Operating Frequency Range
- Electrostatic Protection †

† ESD precautions must be observed

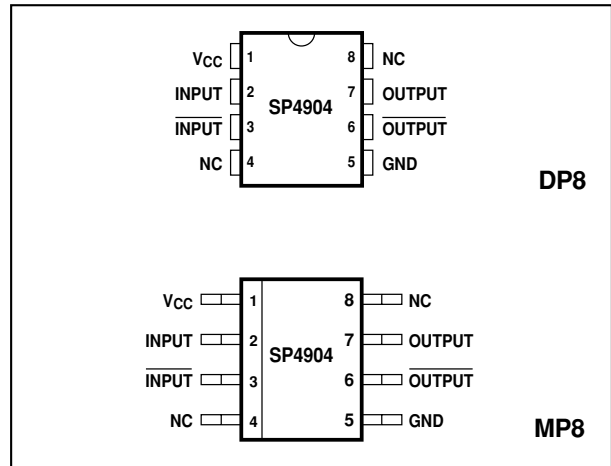


Fig 1. Pin connections - top view

### ABSOLUTE MAXIMUM RATINGS

Supply voltage, V <sub>CC</sub>	+6.5V
Input voltage	2.5V p-p
Storage temperature	-55°C to +150°C
Junction temperature	+175°C

### ORDERING INFORMATION

SP4904 NA DP  
SP4904 NA MP

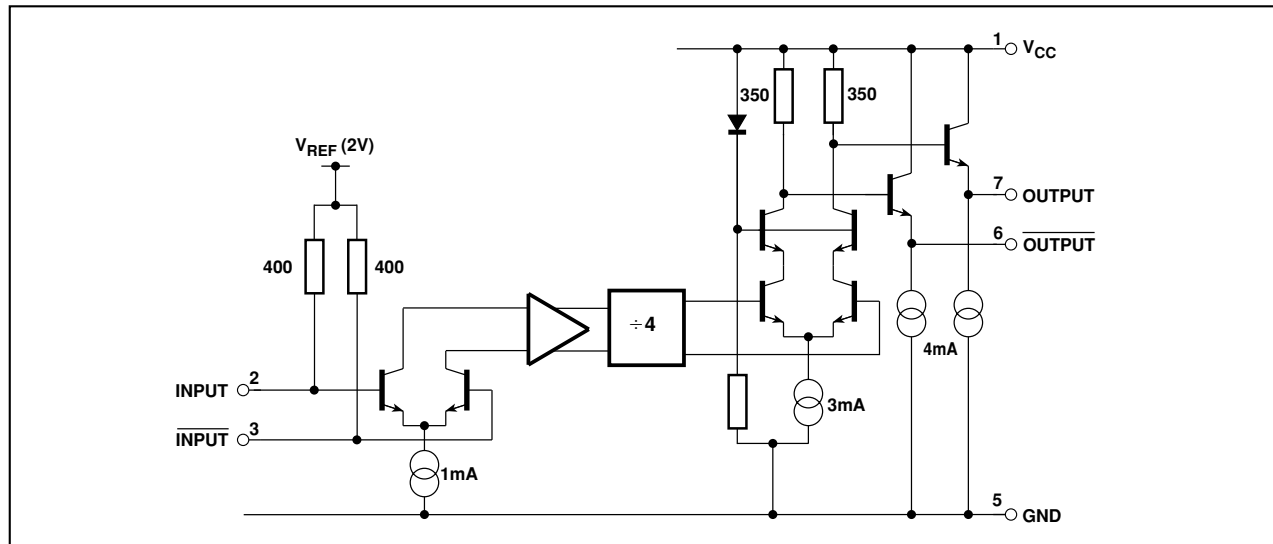


Fig. 2 SP4904 block diagram

**ELECTRICAL CHARACTERISTICS**

These characteristics are guaranteed over the following conditions (unless otherwise stated):

$T_{AMB} = -10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ ,  $V_{CC} = +4.75\text{V}$  to  $+5.25\text{V}$  (Test circuit see Fig. 4)

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply current, $I_{CC}$	1		60	75	mA	$V_{CC} = +5\text{V}$
Input sensitivity 500MHz to 1800MHz	2,3			50	mV	RMS sinewave, measured in 50Ω system, see Figs 3 and 4.
2500MHz				100	mV	
Input impedance (series equivalent)	2,3		50		Ω	See Fig. 5
			2		pF	
Output voltage with $f_{IN} = 500\text{MHz}$	6,7	0.45	0.55		V p-p	$V_{CC} = +5\text{V}$ , load as Fig. 4

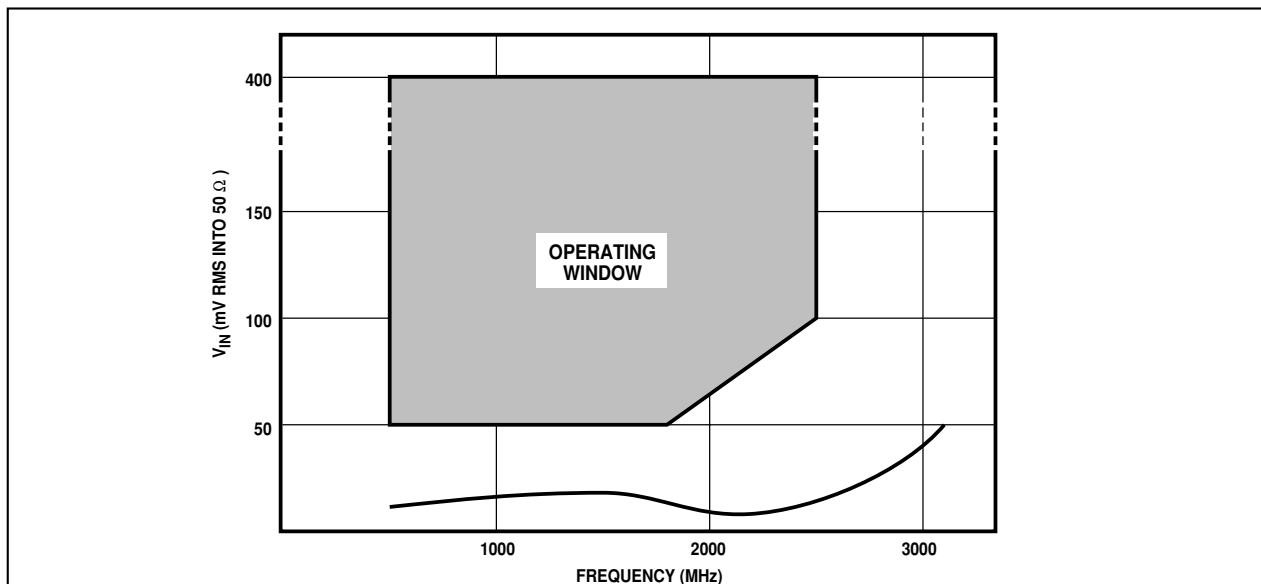


Fig. 3 Typical input sensitivity

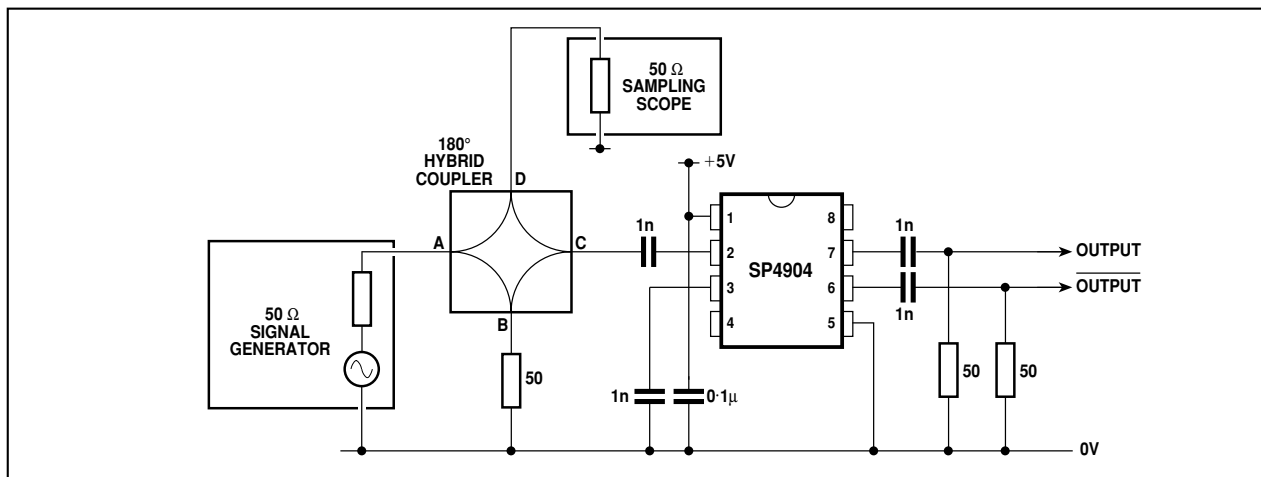


Fig. 4 Test circuit

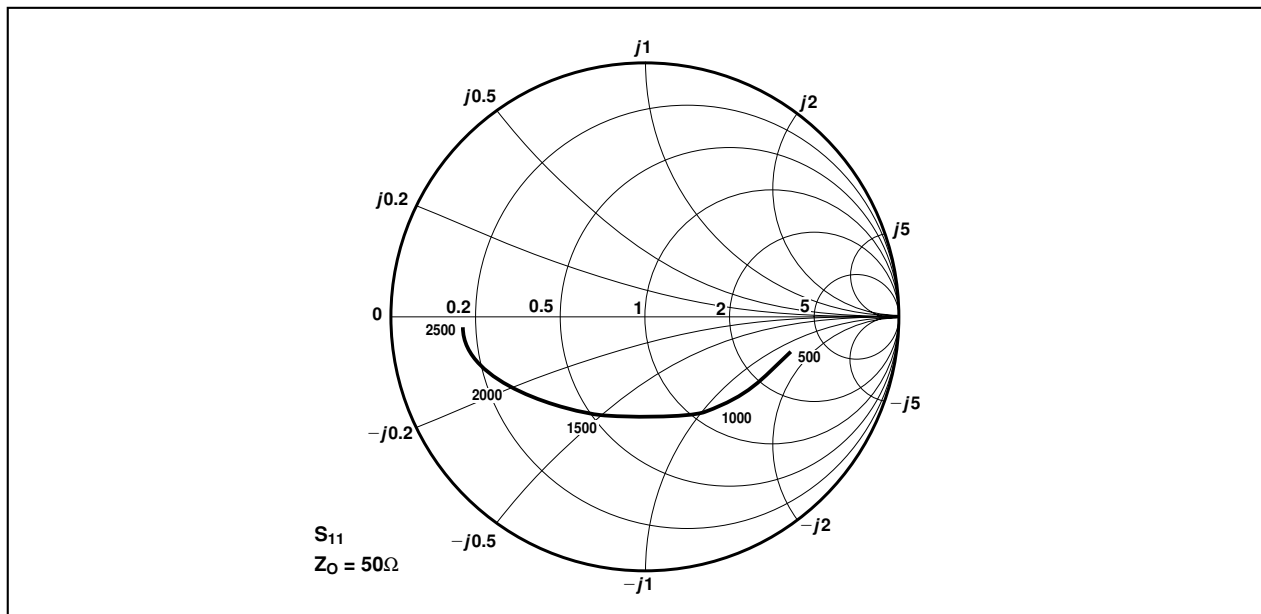


Fig. 5 Typical input impedance (frequencies in MHz)



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