

SP4902

2.5GHz ÷2 PRESCALER

The SP4902 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

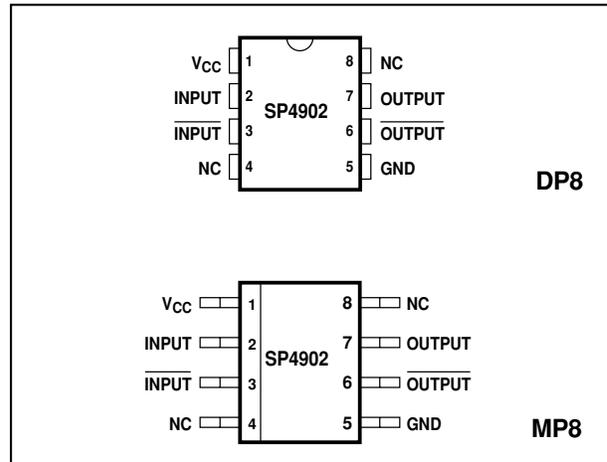


Fig 1. Pin connections - top view

ABSOLUTE MAXIMUM RATINGS

| | |
|--------------------------|-----------------|
| Supply voltage, V_{CC} | +6.5V |
| Input voltage | 2.5V p-p |
| Storage temperature | -55°C to +150°C |
| Junction temperature | +175°C |

ORDERING INFORMATION

SP4902 NA DP
SP4902 NA MP

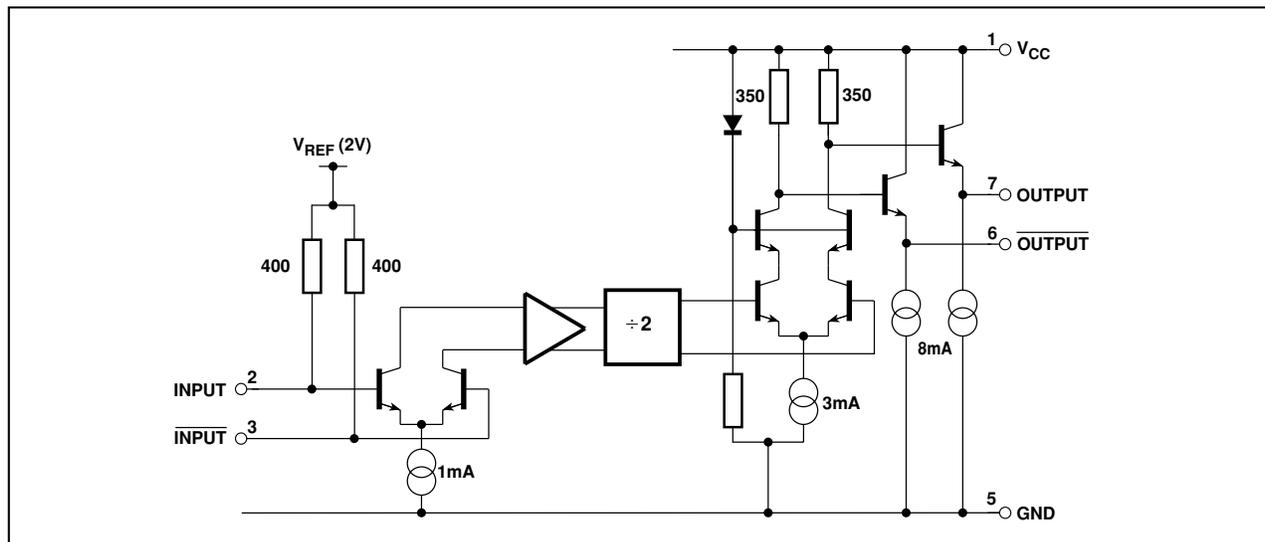


Fig. 2 SP4902 block diagram

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 | 2,3 | | | | | |
| 500MHz to 1800MHz | | | | 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 |
| Output voltage with $f_{IN} = 2500\text{MHz}$ | 6,7 | 0.15 | 0.2 | | V p-p | $V_{CC} = +5\text{V}$, load as Fig. 4 |

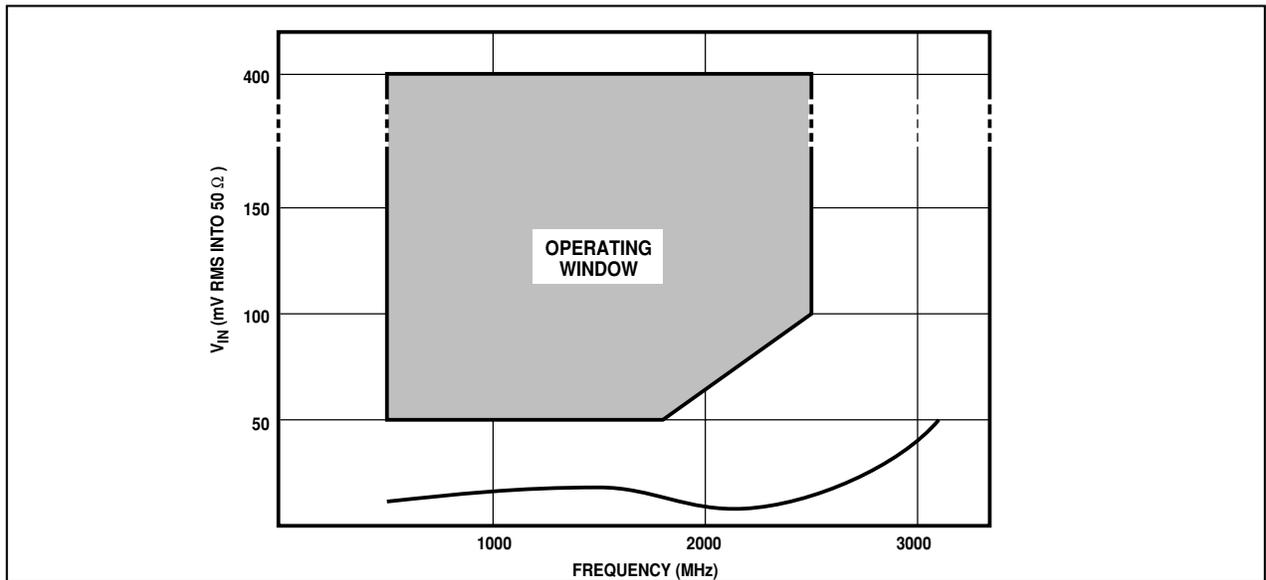


Fig. 3 Typical input sensitivity

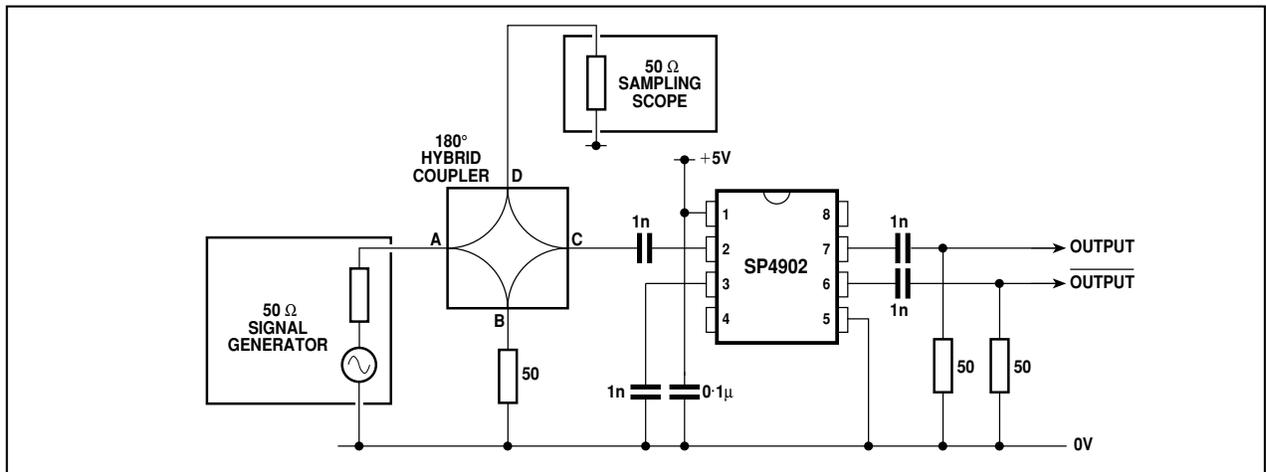


Fig. 4 Test circuit

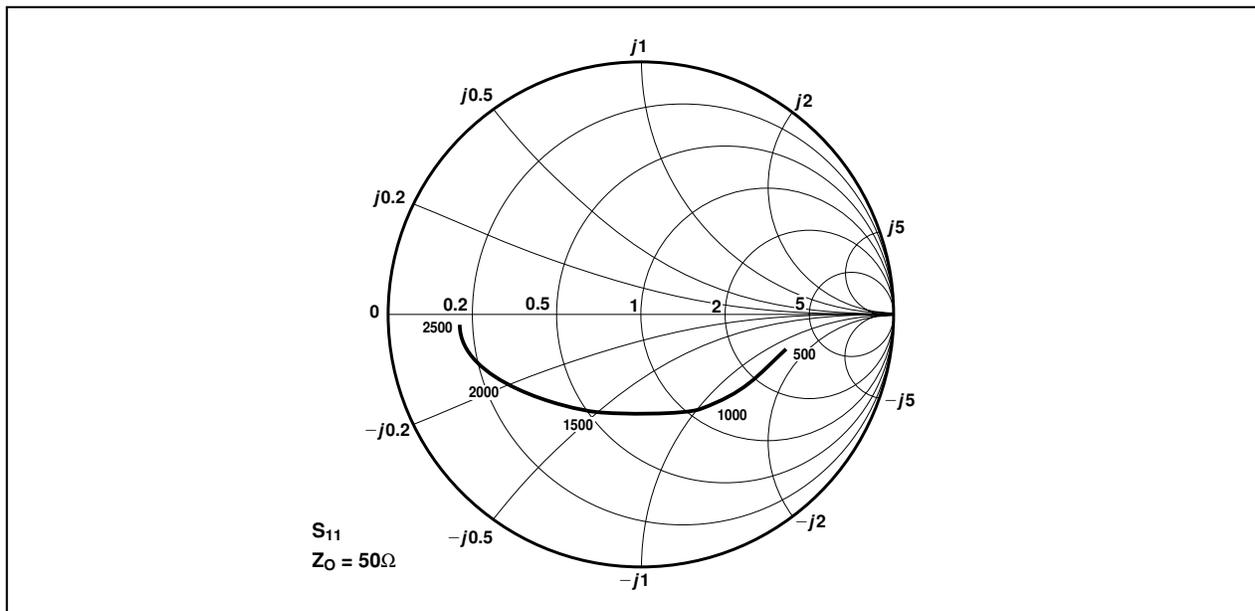


Fig. 5 Typical input impedance (frequencies in MHz)



HEADQUARTERS OPERATIONS

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