

SP8814A1

1.6GHz ÷ 4 PRESCALER

(Supersedes December 1989 Edition)

The SP8814A1 is one of a range of very high speed low power prescalers for professional and military applications. The device features a complementary output stage with on-chip current sources for the emitter follower outputs.

FEATURES

- High Speed Operation 1.6GHz
- Silicon Technology for Low Phase Noise (Typically Better than -140dBc/Hz at 10kHz)
- Very Low Power Dissipation 220mW (Typ)
- 5V Single Supply Operation
- High Input Sensitivity
- Very Wide Operating Frequency Range
- Temperature Range -55°C to +125°C

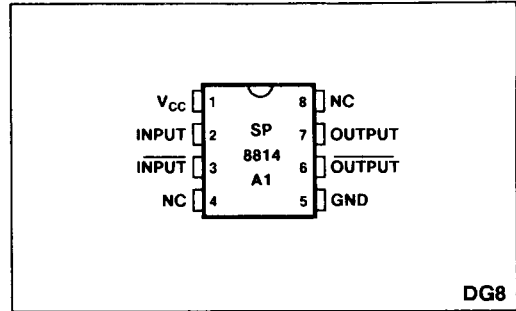


Fig 1 Pin Connections - top view

DG8

ABSOLUTE MAXIMUM RATINGS

Supply voltage V_{CC}	6.5V
Clock input voltage	2.5V p-p
Storage temperature range	-55°C to +150°C
Junction temperature	+175°C

ORDERING INFORMATION

SP8814 A1 DG ✓

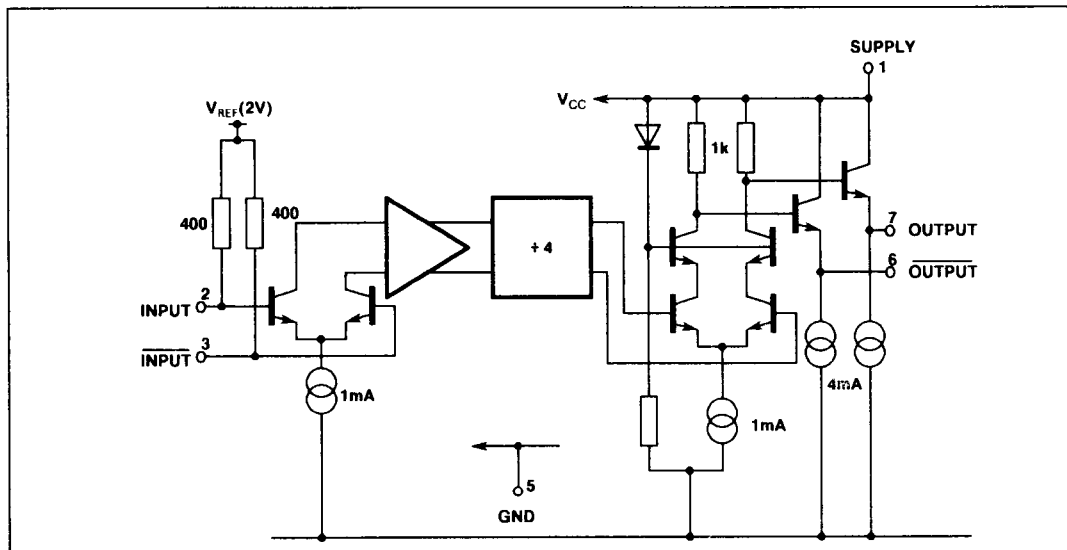


Fig 2 SP8814A1 Block Diagram

ELECTRICAL CHARACTERISTICS

Test conditions (unless otherwise stated)

Supply Voltage: $V_{CC} = 4.75V$ to $5.25V$

Temperature: $T_{amb} = -55^{\circ}C$ to $+125^{\circ}C$

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ	Max.		
Supply Current	1		44	52	mA	RMS sinewave, measured in 50Ω system. See Figs. 3 & 4
Input Sensitivity, 500MHz to 1600MHz	2, 3			150	mV	
Input impedance (series equivalent)	2, 3		50		Ω	
Output voltage with $f_{IN} = 500MHz$	6, 7	0.5	2	1	pF	
Output voltage with $f_{IN} = 1600MHz$	6, 7		0.13		Vp-p	
					Vp-p	

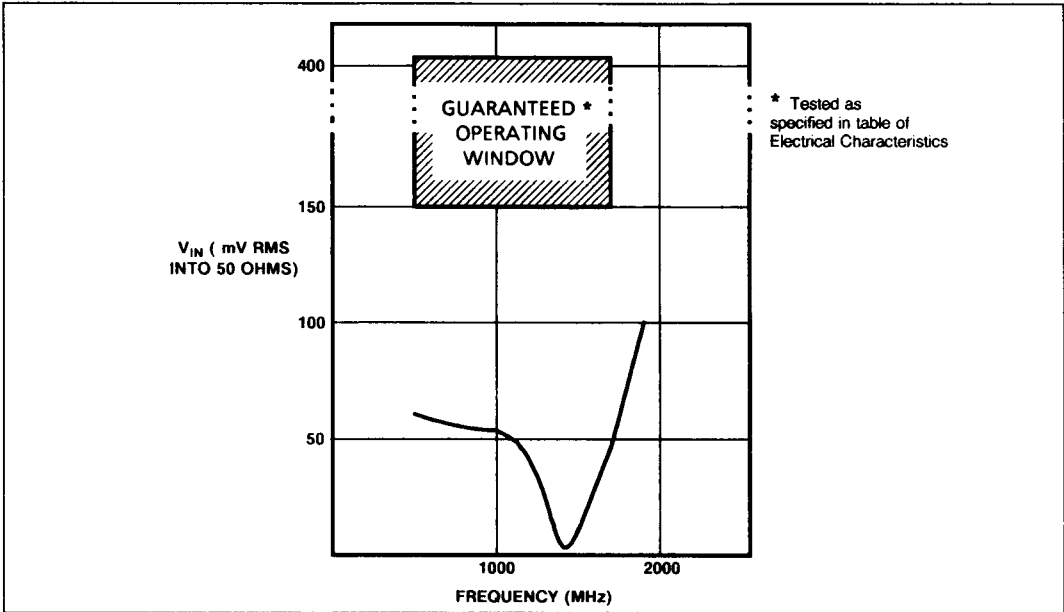


Fig.3 Typical input sensitivity

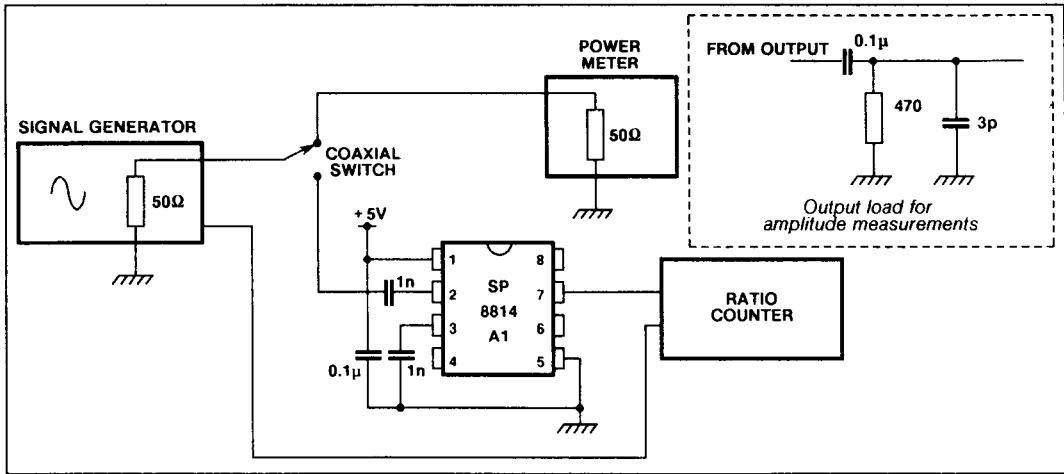


Fig.4 Test circuit

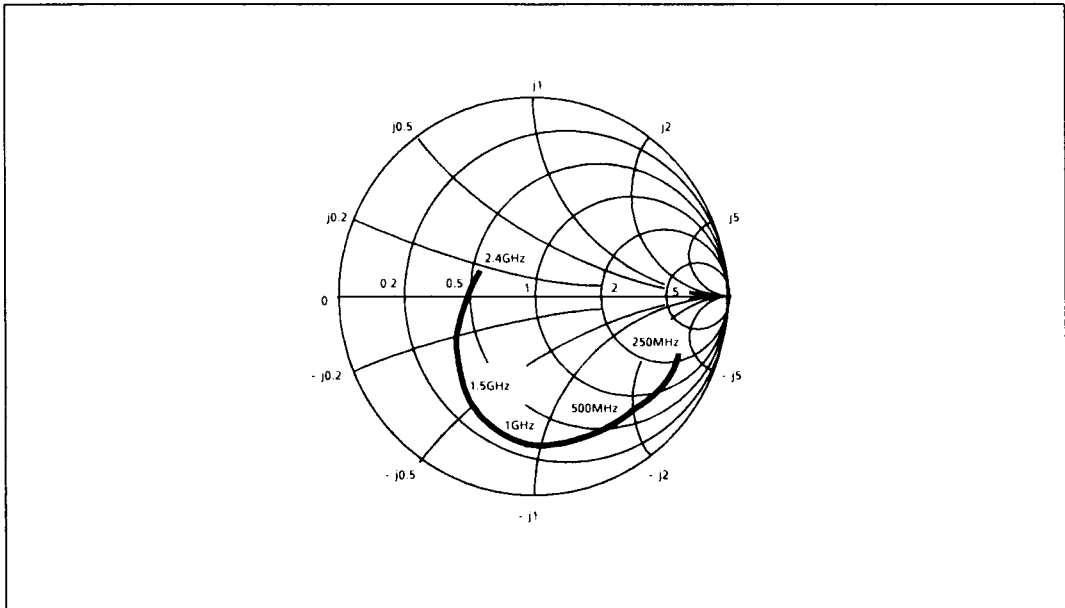


Fig.5 Typical input impedance, normalised to 50Ω