

SP8830

1.5GHz ÷ 10 PRESCALER

The SP8830 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 1.5GHz
- Silicon Technology for Low Phase Noise (Typically Better Than $-140\text{dBc} / \text{Hz}$ at 10kHz)
- Very Low Power Dissipation: 150mW (Typ.)
- Single 5V Supply Operation
- High Input Sensitivity
- Very Wide Operating Frequency Range
- Temperature Range: -55°C to $+125^{\circ}\text{C}$ (A Grade)
 -40°C to $+85^{\circ}\text{C}$ (B Grade)

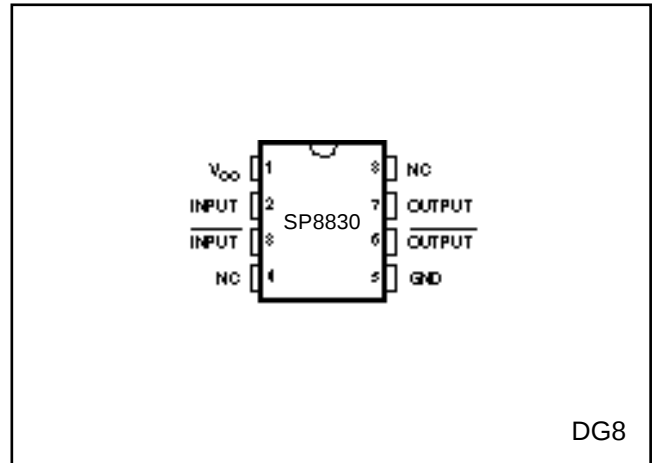


Fig. 1 Pin connections - top view

ABSOLUTE MAXIMUM RATINGS

Supply voltage, V_{CC}	6.5V
Clock input voltage	2.5V p-p
Storage temperature range	-65°C to $+150^{\circ}\text{C}$
Junction temperature	$+175^{\circ}\text{C}$

ORDERING INFORMATION

SP8830 A DG
SP8830 B DG
DES9157201/AC/DGAZ (SMD)

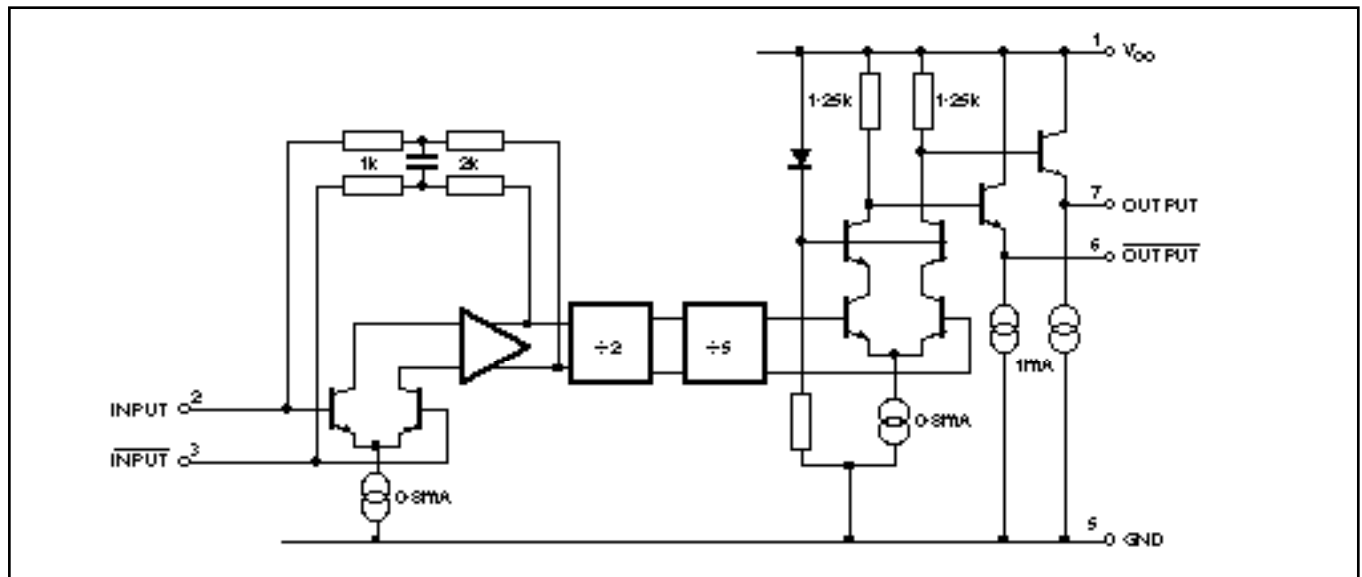


Fig. 2 SP8830 block diagram

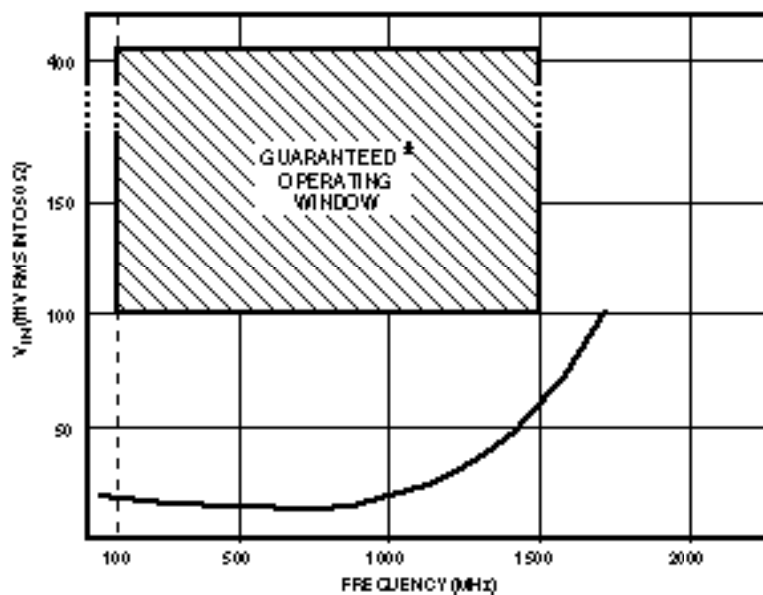
ELECTRICAL CHARACTERISTICS

Unless otherwise stated, the Electrical Characteristics are guaranteed over specified supply, frequency and temperature range

Supply voltage, $V_{CC} = 4.75V$ to $5.25V$

Temperature, $T_{AMB} = -55^{\circ}C$ to $+125^{\circ}C$ (A Grade), $-40^{\circ}C$ to $+85^{\circ}C$ (B Grade)

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply current, I_{CC}	1		40	50	mA	RMS sinewave, measured in 50W system. See Figs 3 and 4. See Fig. 5
Input sensitivity, 100MHz to 1500MHz	2, 3			100	mV	
Input impedance (series equivalent)	2, 3		50 2		W pF	
Output voltage with $f_{IN} = 100MHz$	6, 7	0.7	1		V p-p	
Output voltage with $f_{IN} = 1500MHz$	6, 7		0.4		V p-p	



* Tested as specified in table of Electrical Characteristics

Fig. 3 Typical input sensitivity

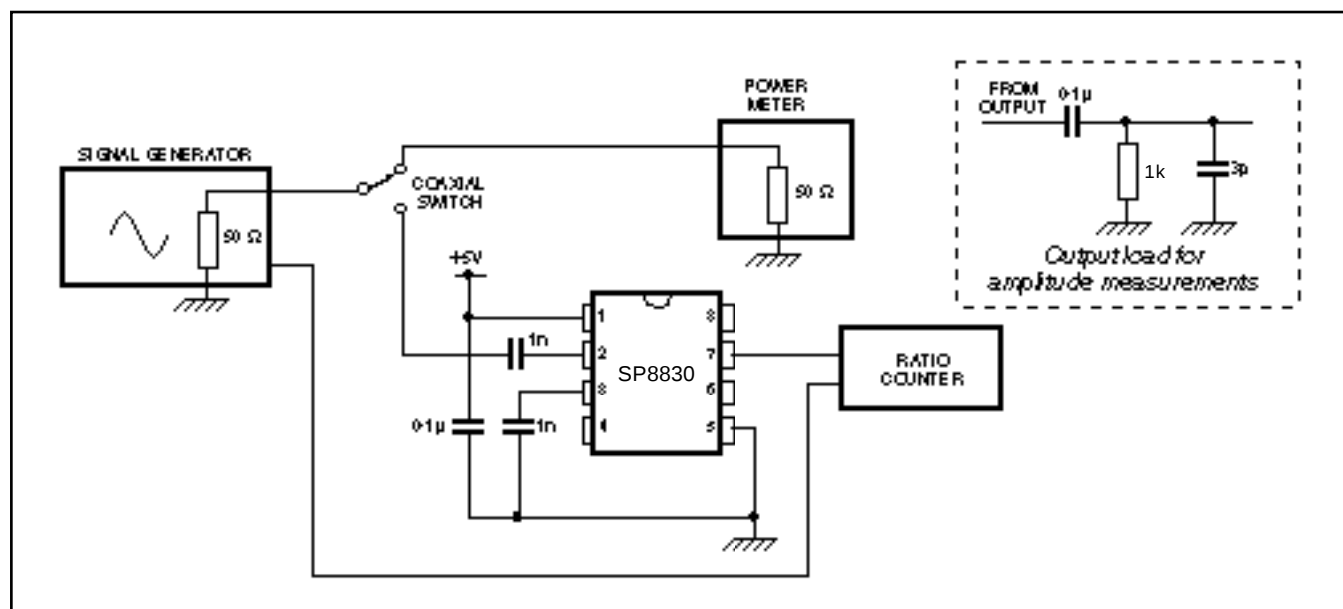


Fig. 4 Test circuit

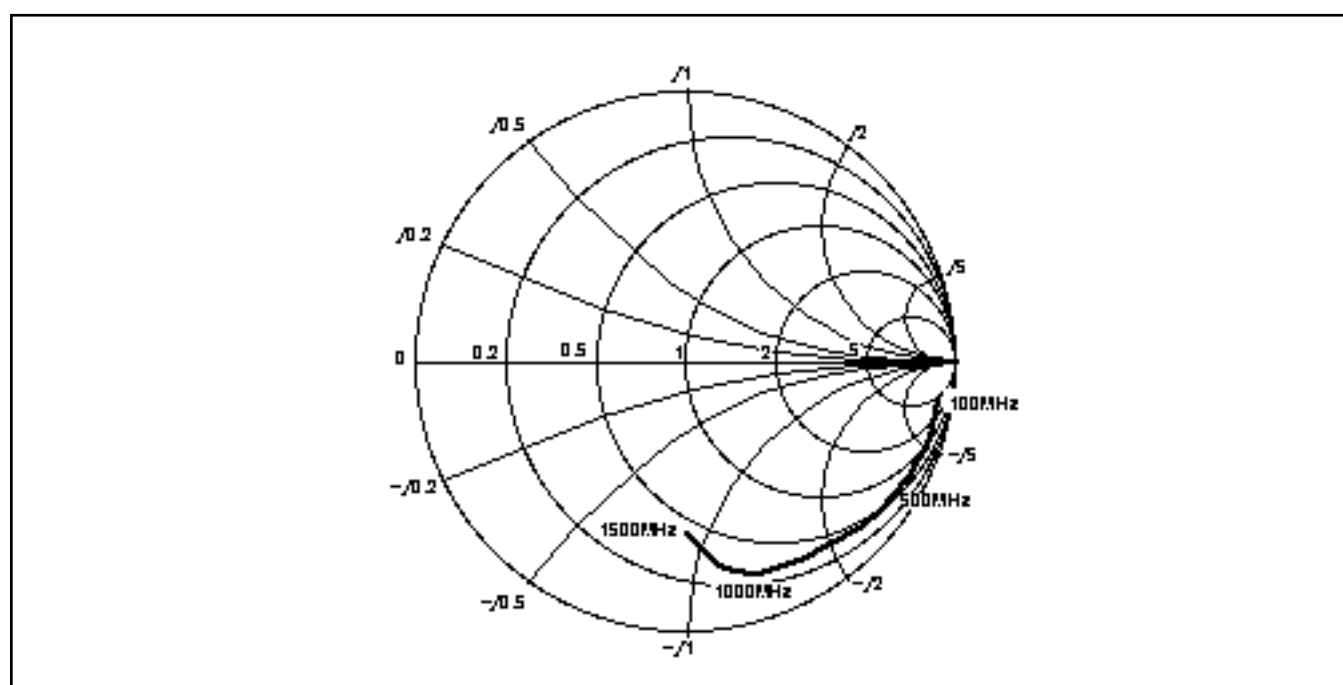
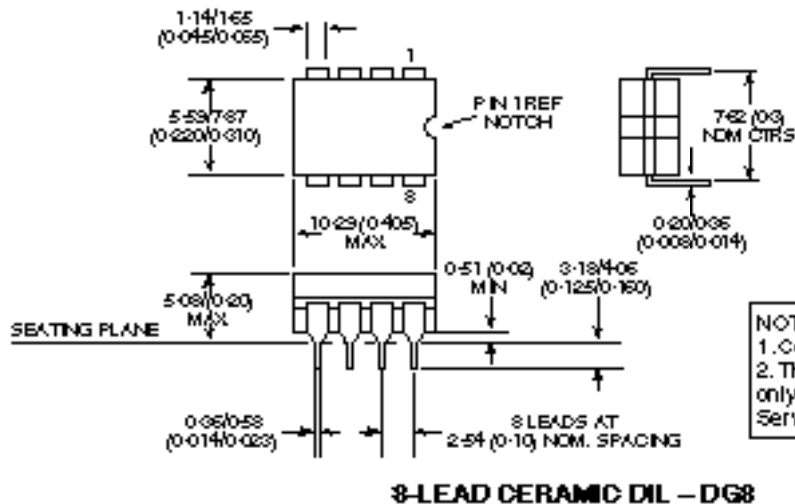


Fig. 5 Typical input impedance, normalised to 50Ω

PACKAGE DETAILS

Dimensions are shown thus: mm (in).



NOTES

1. Controlling dimensions are in inches.
2. This package outline diagram is for guidance only. Please contact your GPS Customer Service Centre for further information.



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