



SP8830

1.5GHz, 10 Prescaler Data Sheet

Features

- High speed operation 1.5GHz
- Silicon technology for low phase noise (typically better than -140dBc/Hz at 10kHz)
- Very low power dissipation: 150mW (Typ.)
- Single 5V supply operation
- High input sensitivity
- Very wide operating frequency range
- Available as DESC SMD 5962 - 9157201MPA

DS3690

May 2002

Ordering Information

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

- Temperature Range: -55°C to +125°C (A Grade)
 -40 °C to +85°C (B Grade)

Description

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.

Absolute Maximum Ratings

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

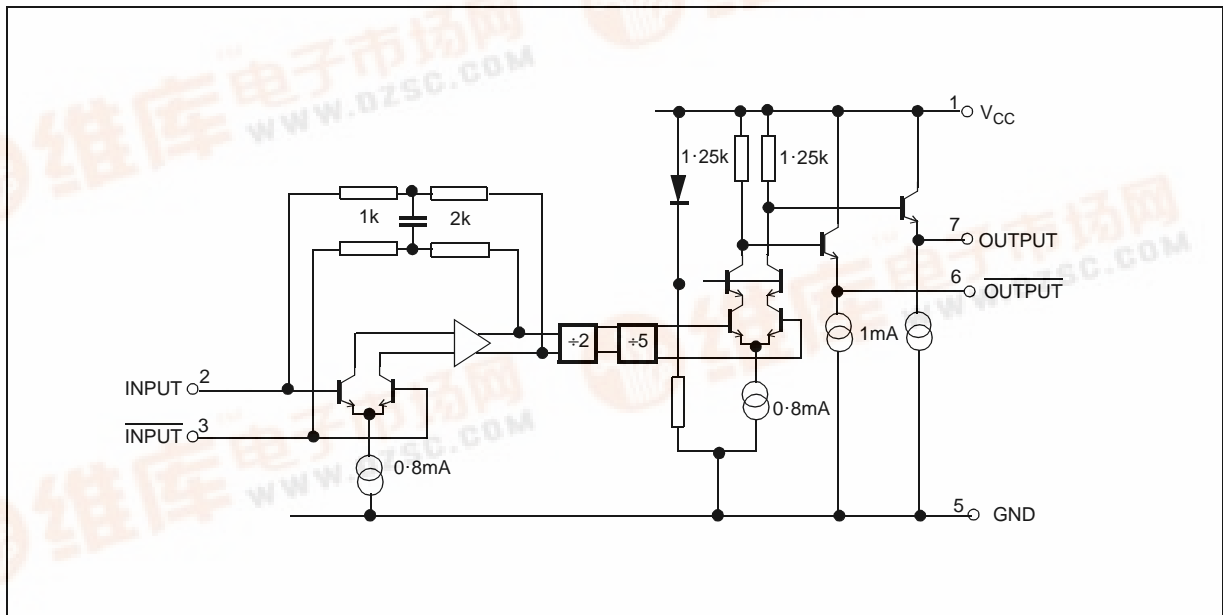


Figure 1 - SP8830 Block Diagram

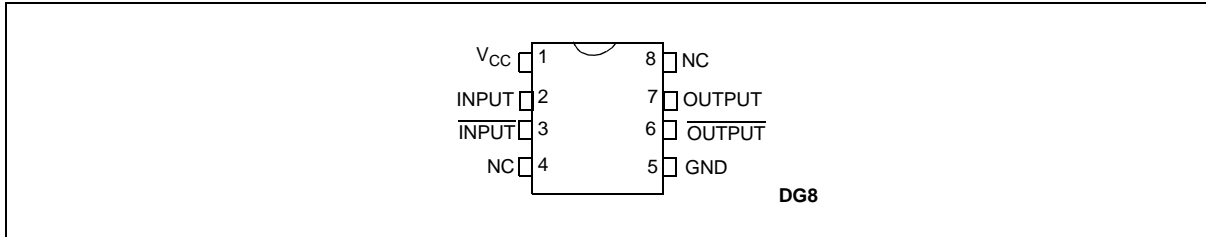
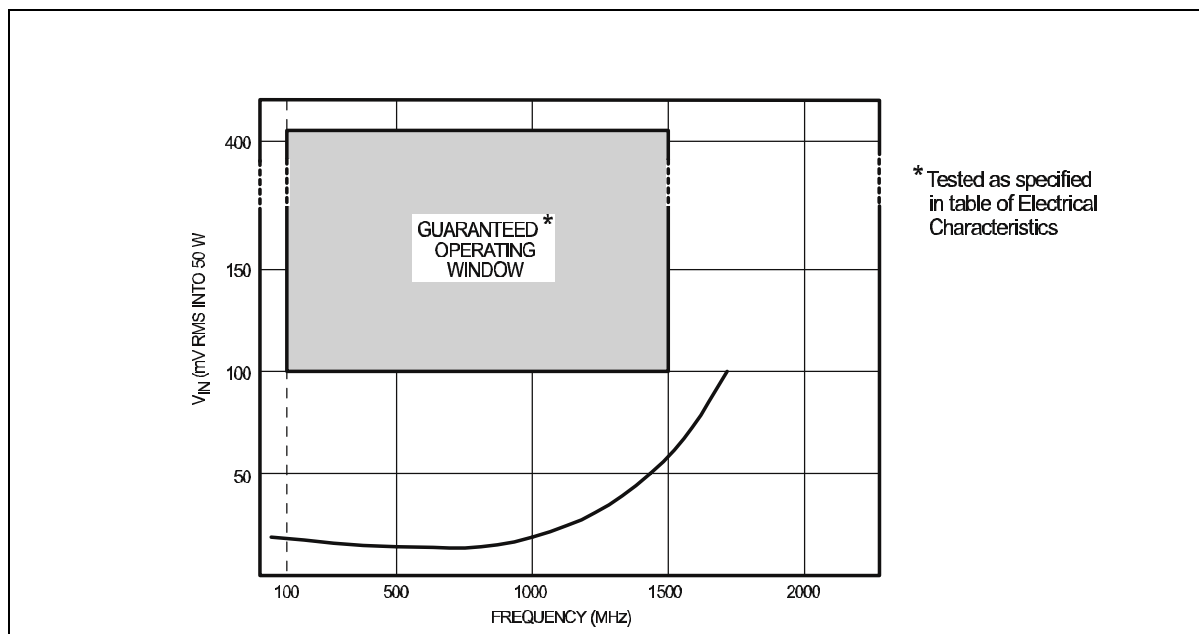


Figure 2 - Pin Connections

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°C to +125°C (A Grade), -40°C to +85°C (B Grade)

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply current, I_{CC}	1		40	50	mA	
Input sensitivity, 100MHz to 500MHz	2, 3			100	mV	RMS sinewave, measured in 50Ω system. See Figs. 3 and 4.
Input impedance (series equivalent)	2, 3		50 2		Ω pF	See Fig. 5
Output voltage with $f_{IN} = 100\text{MHz}$	6, 7	0.7	1		V p-p	
Output voltage with $f_{IN} = 1500\text{MHz}$	6, 7		0.4		V p-p	



* Tested as specified in table of Electrical Characteristics

Figure 3 - Typical Input Sensitivity

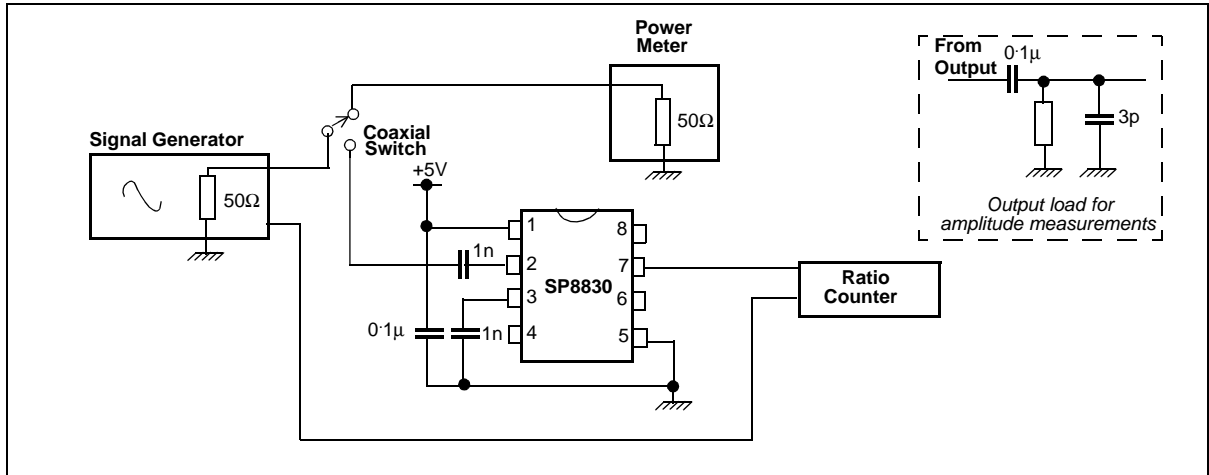


Figure 4 - Test Circuit

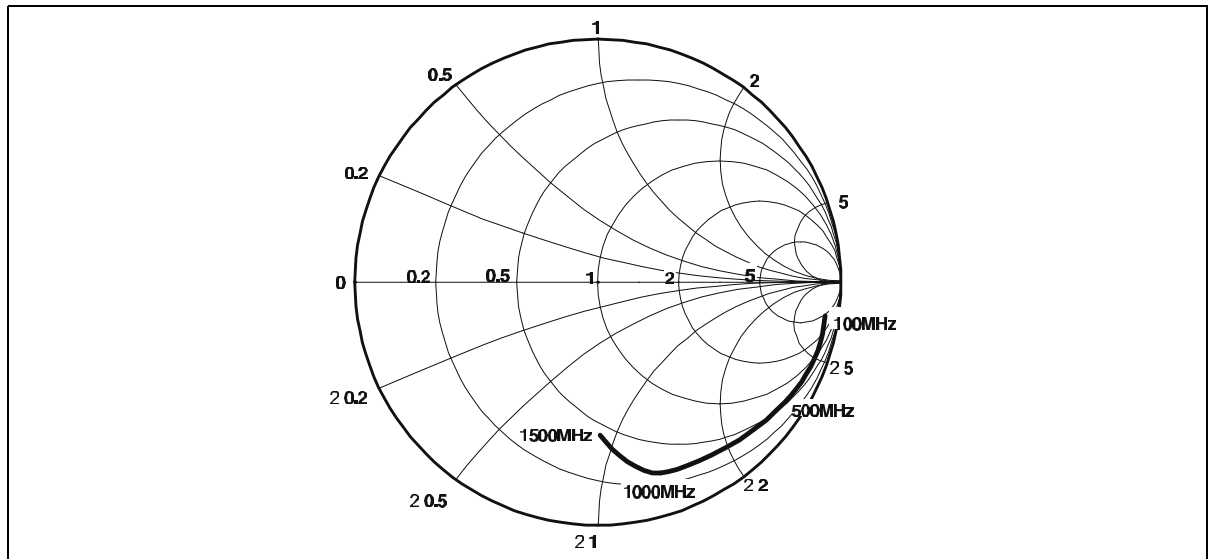
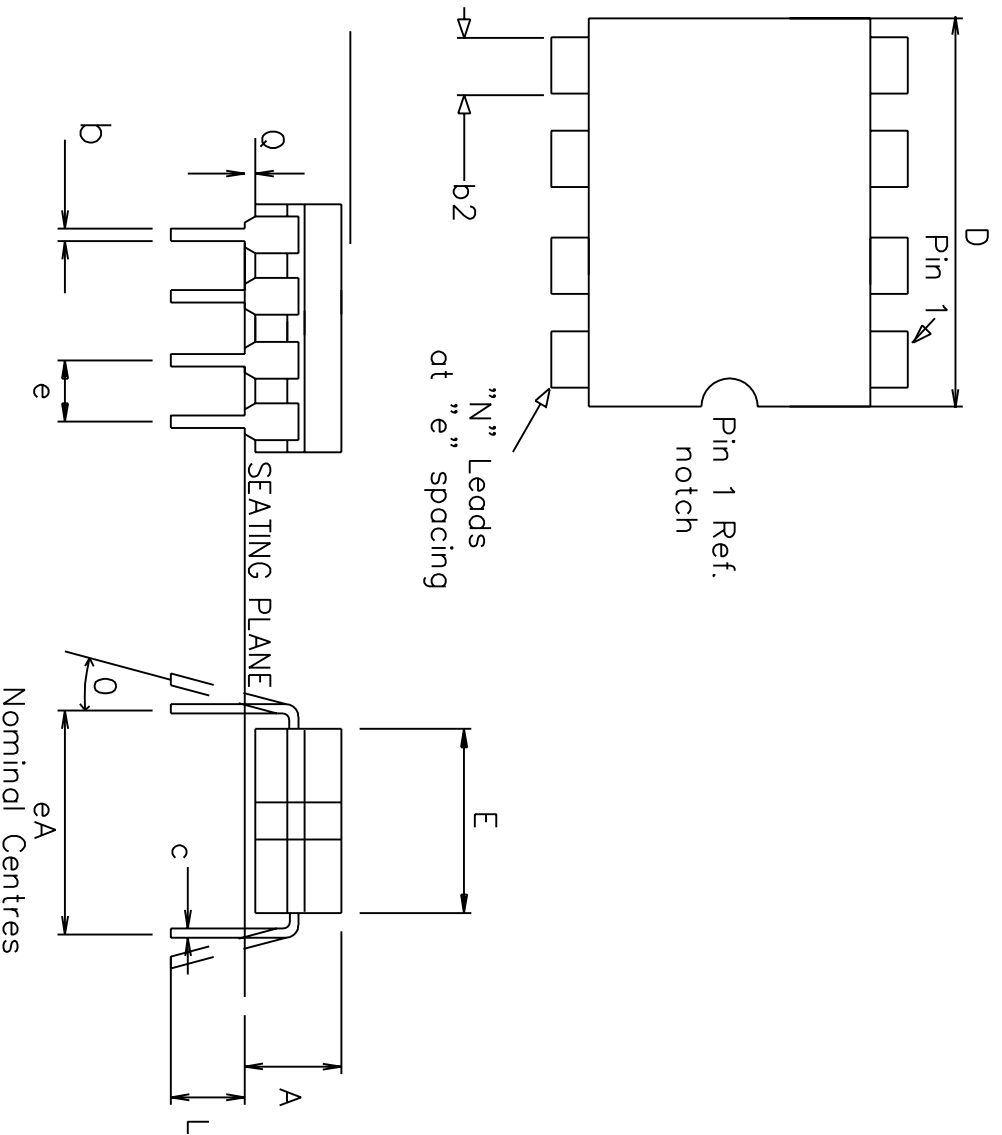


Figure 5 - Typical Input Impedance, Normalised to 50W



Symbol	Altern. Dimensions in millimetres			Control Dimension in inches		
	MIN	Nominal	MAX	MIN	Nominal	MAX
L	3.18		4.06	0.125		0.160
A			5.08			0.200
Q	0.51			0.020		
E	5.59		7.87	0.220		0.310
eA		7.62			0.300	
c	0.20		0.36	0.008		0.014
D			10.29			0.405
e		2.54 BSC.			0.100 BSC.	
b2	1.14		1.65	0.045		0.065
b	0.36		0.58	0.014		0.022
0			15			1
Pin features						
N	8					
ND	4					
NE	0					
NOTE	RECTANGULAR					

This drawing supersedes 418/ED/39501/001 (Swindon)

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Previous package codes	DG / C
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Package Code	DH
Package Outline for 8 lead (Glass Seal Ceramic)	GPD00270



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