

SP8804

3.3GHz ÷ 4 FIXED MODULUS DIVIDER

The SP8804 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 source for the emitter follower outputs.

FEATURES

- Very High Speed Operation 3.3GHz
- Silicon Technology for low Phase Noise (Typically better than -140dBc/Hz at 10kHz)
- Specified Over the Full Military Temperature Range
- Low Power Dissipation 370mW (typ)
- 5V Single Supply Operation
- High Input Sensitivity
- Very Wide Operating Frequency Range

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

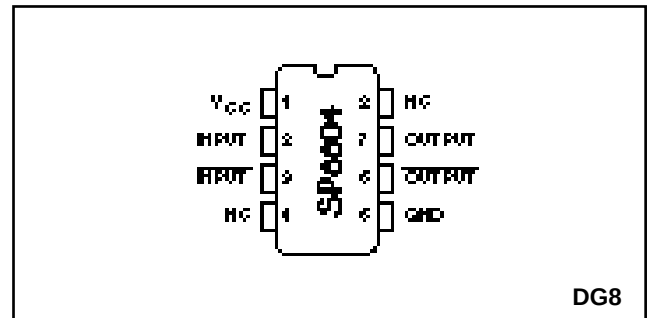


Fig.1 Pin connections top view

THERMAL CHARACTERISTICS

$\theta_{JA} = 150^{\circ}\text{C/W}$

ORDERING INFORMATION

SP8804/A/DG Military temperature range
DES9056701/AC/DGAZ (SMD)

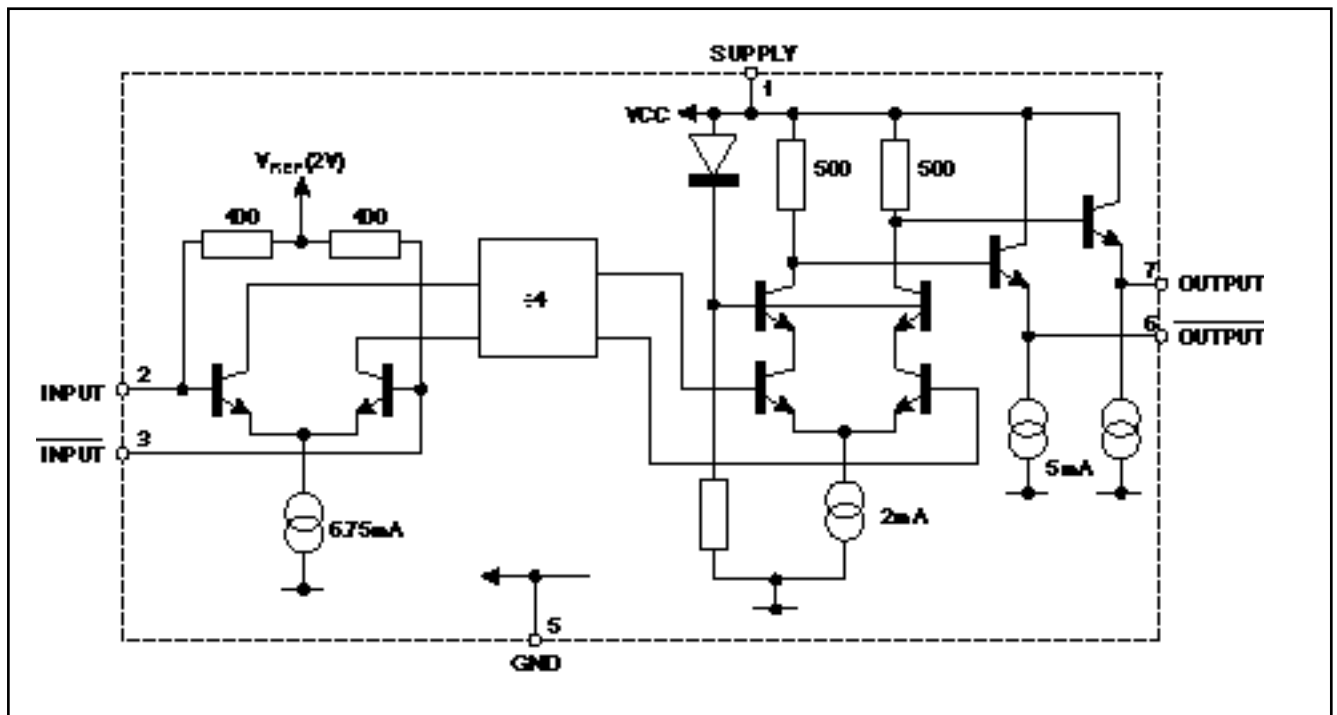


Fig.2 SP8804 Block diagram

SP8804

ELECTRICAL CHARACTERISTICS

Guaranteed over the temperature range T_{amb} -55°C to +125°C (see note) and supply voltage range 4.75V to 5.25V.
Tested at T_{amb} = -55°C and +105°C, V_{CC} = 4.75V and 5.25V.

Characteristic	Pin	Value			Units	Conditions
		Min	Typ	Max		
Supply current	1		74	90	mA	V_{CC} = 5V RMS sinewave measured in 50 ohm system. See Figs. 3 & 4
Input sensitivity	2, 3			175	mV	
0.65GHz to 2.8GHz				400	mV	
3.3GHz						
Input impedance (series equivalent)	2, 3		50		W	V_{CC} = 5V V_{CC} = 5V load as Fig. 4
			2		pF	
Output Voltage with f_{in} = 1000MHz	6, 7	0.8	1		Vp-p	
Output Voltage with f_{in} = 3GHz	6, 7		0.25		Vp-p	

NOTE: Devices must be used with a suitable heatsink to maintain chip temperature below 175°C when operating at T_{amb} > 105°C.

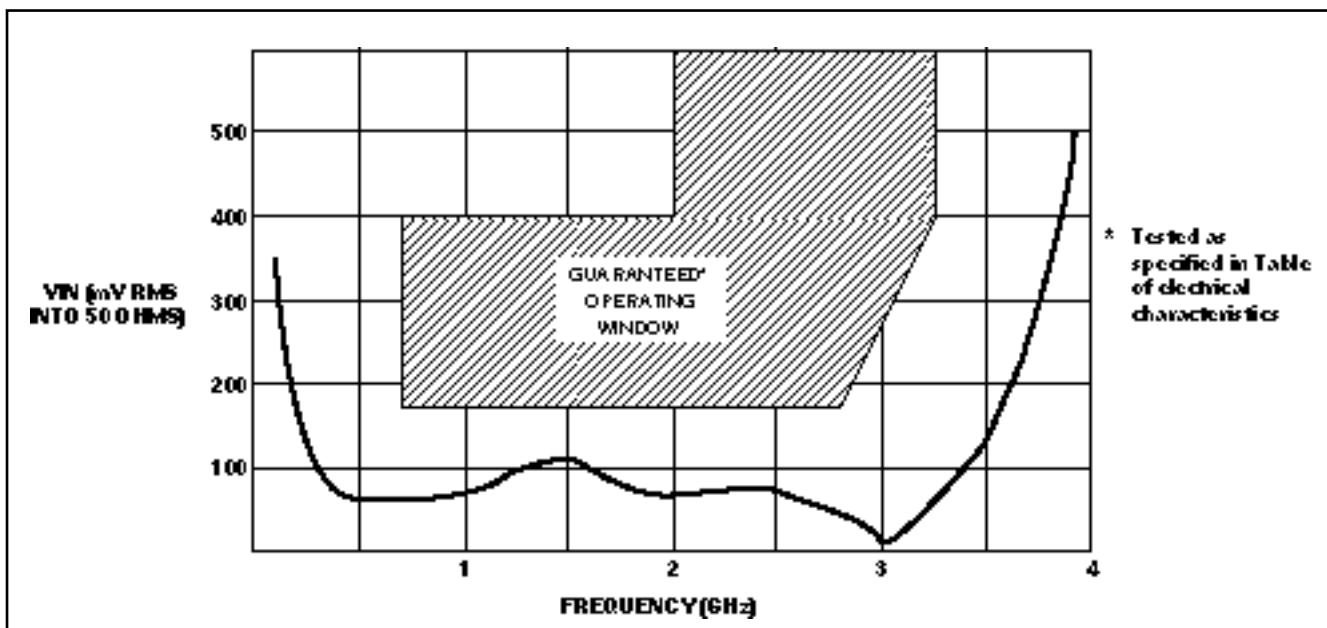


Fig.3 Typical input sensitivity

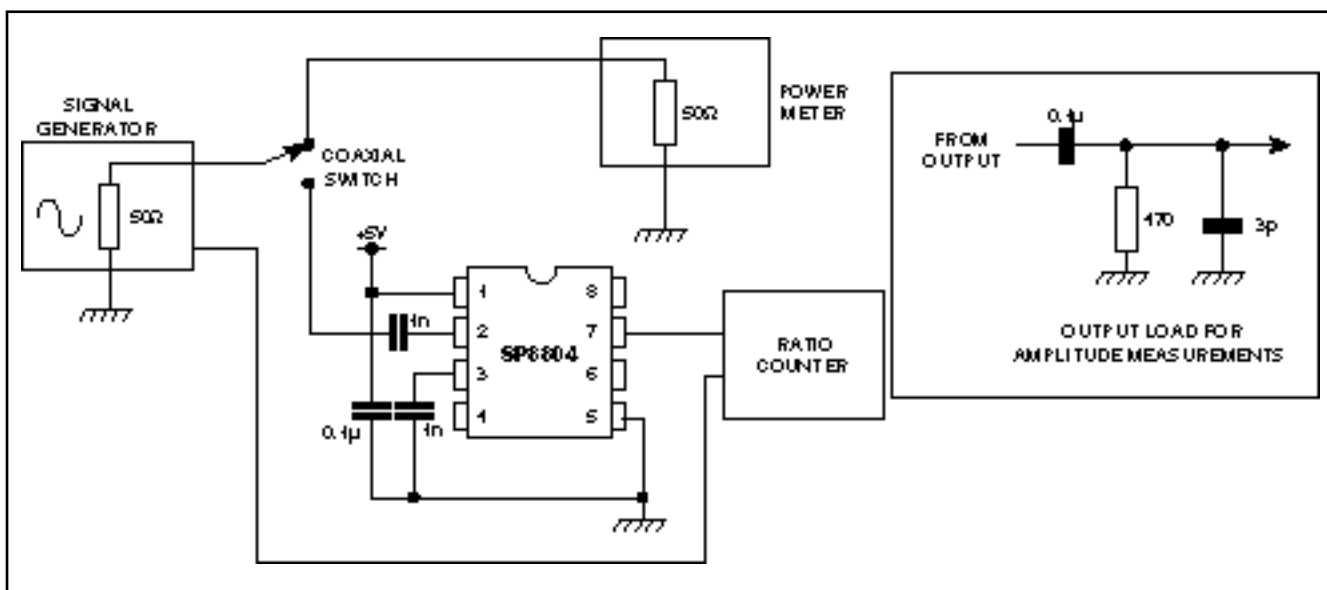


Fig.4 Test circuit

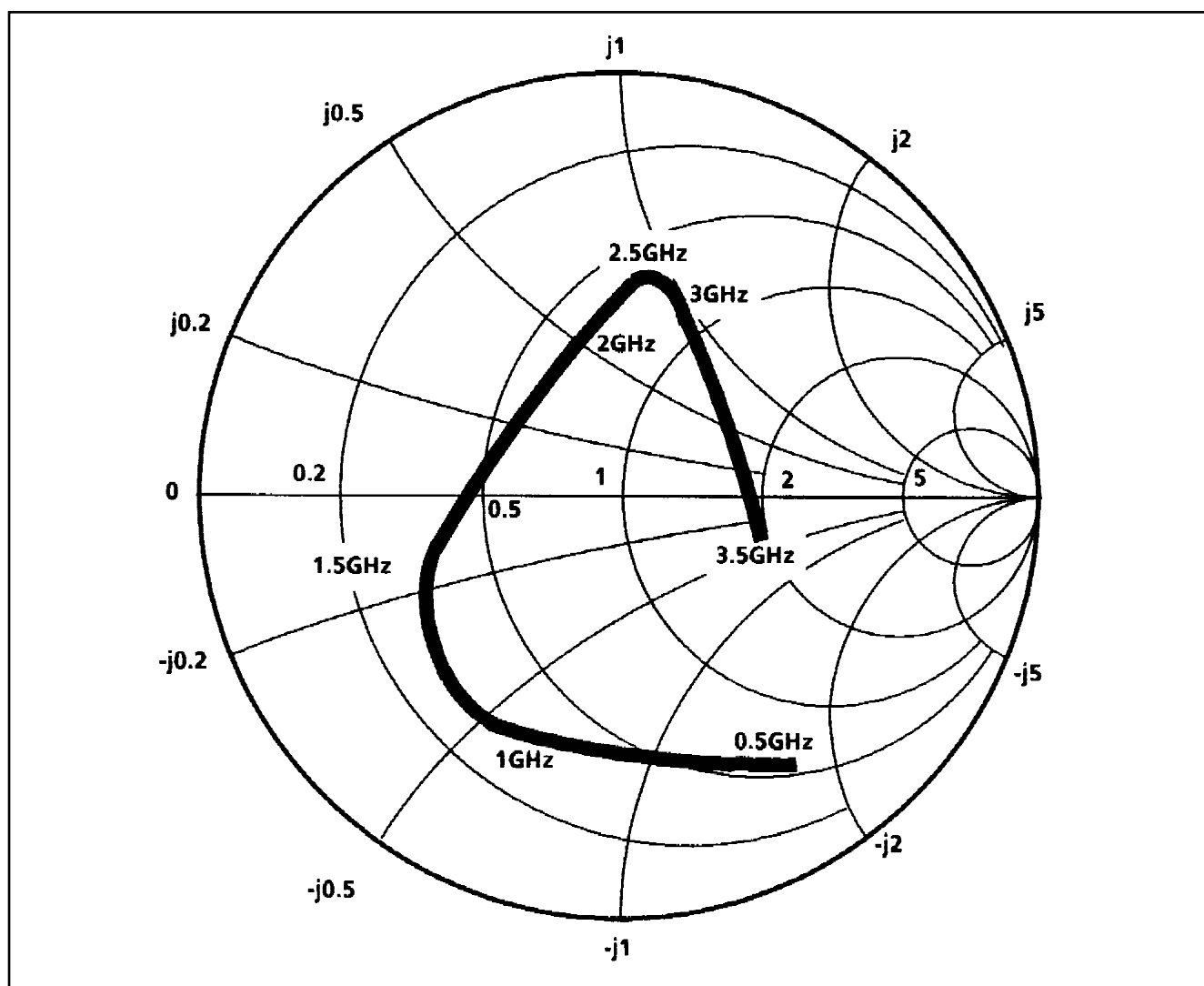
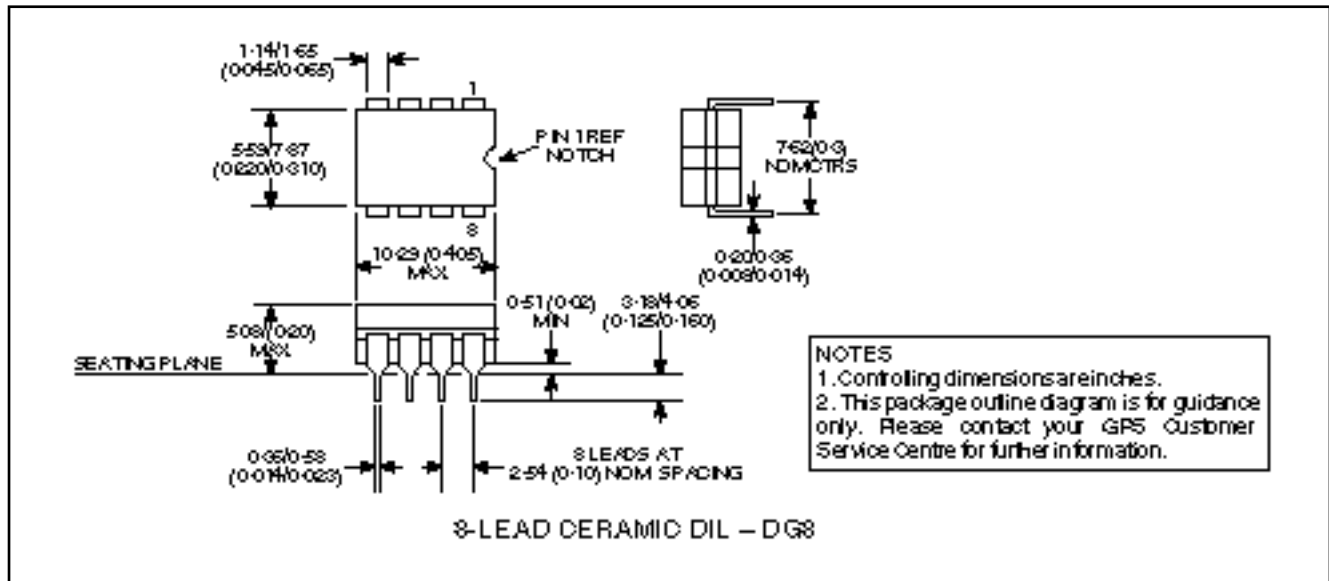


Fig.5 Typical input impedance



HEADQUARTERS OPERATIONS

GEC PLESSEY SEMICONDUCTORS

Cheney Manor, Swindon,
Wiltshire SN2 2QW, United Kingdom.
Tel: (01793) 518000
Fax: (01793) 518411

GEC PLESSEY SEMICONDUCTORS

P.O. Box 660017
1500 Green Hills Road,
Scotts Valley, California 95067-0017,
United States of America.
Tel: (408) 438 2900
Fax: (408) 438 5576

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