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SP4740

1.3GHz ÷256 PRESCALER WITH LOW CURRENT AND LOW RADIATION

The SP4740 ÷256 prescaler is one of GPS' range of high speed dividers for consumer frequency synthesis and measurement systems. It has a low supply current, giving reduced dissipation and operating temperatures in an 8-pin plastic DIL (DP8) or miniature plastic DIL (MP8) package. Spurious radiation has been reduced from all stages.

The SP4740 incorporates an on-chip preamplifier with differential inputs and has a TTL/CMOS compatible output.

FEATURES

- Low Supply Current
 - Low Radiation
 - Input Wideband Amplifier
 - High Input Sensitivity
 - High Input Impedance
 - TTL/CMOS Output
 - Electrostatic Protection †
- † ESD precautions must be observed

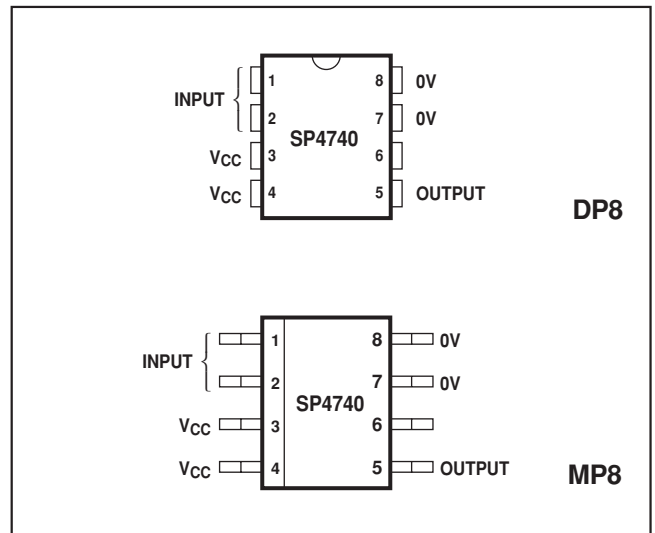


Fig 1. Pin connections - top view

ABSOLUTE MAXIMUM RATINGS

Supply voltage, V_{CC}	+7V
Input voltage	2.5V p-p
Storage temperature	-55°C to +150°C
Operating temperature range	0°C to +80°C

ORDERING INFORMATION

- SP4740 NA DP
- SP4740 NA MP

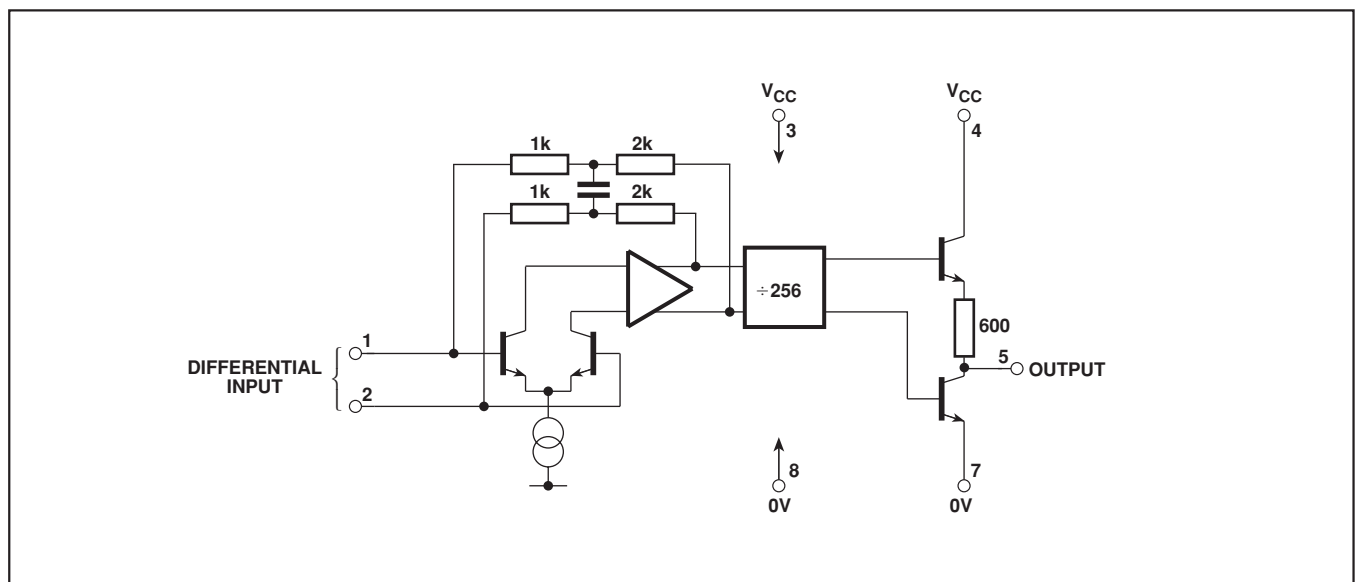


Fig. 2 SP4740 block diagram

SP4740

ELECTRICAL CHARACTERISTICS

These characteristics are guaranteed over the following conditions (unless otherwise stated):

$T_{AMB} = 0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$, $V_{CC} = 4.5\text{V}$ to 5.5V (Test circuit see Fig. 3)

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply current, I_{CC}	8		35	50	mA	$V_{CC} = +5\text{V}$
Input sensitivity	2,3					RMS sinewave
50MHz			3	5	mV	
150MHz to 1000MHz			1	5	mV	
1.1GHz			1.5		mV	
1.2GHz			2		mV	
1.3GHz			4		mV	
Input overload	2,3	300			mV	50MHz to 500MHz
		400			mV	500MHz to 1.3GHz
Input impedance	2,3		50		Ω	See Fig. 6
			2		pF	
Output voltage						
High	5	3.3			V	Sourcing 0.2mA
Low	5			0.1	V	Sinking 2mA

NOTE

The difference between the maximum input sensitivity and minimum overload voltage is the guaranteed dynamic range. Input signal levels should be maintained within these limits at all frequencies.

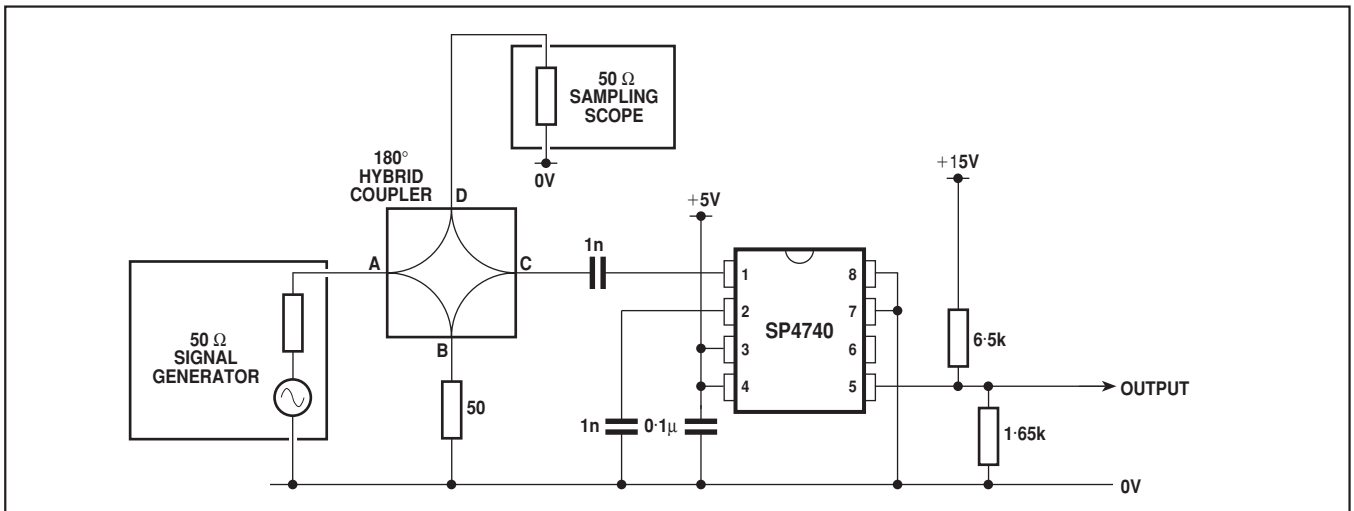


Fig. 3 Test circuit

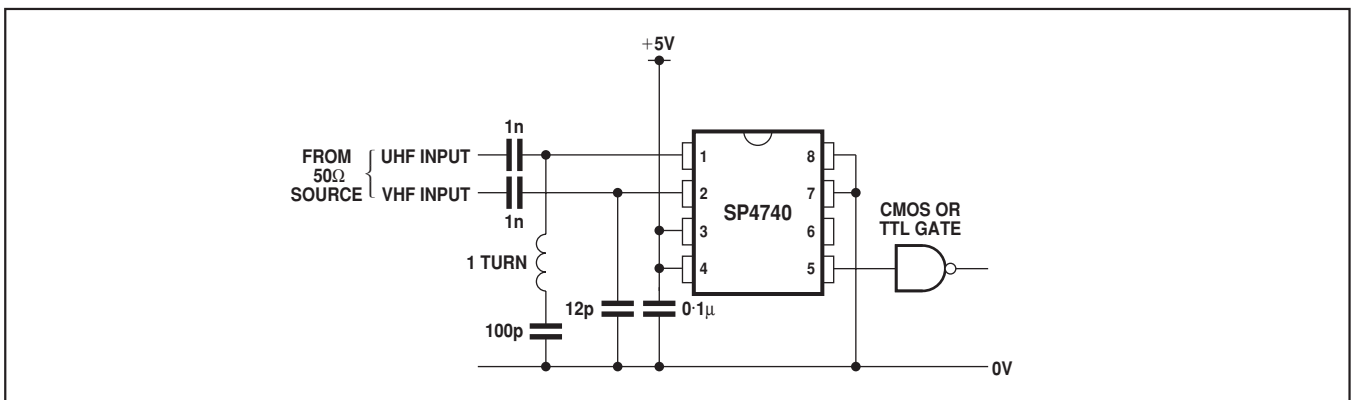


Fig. 4 Application circuit

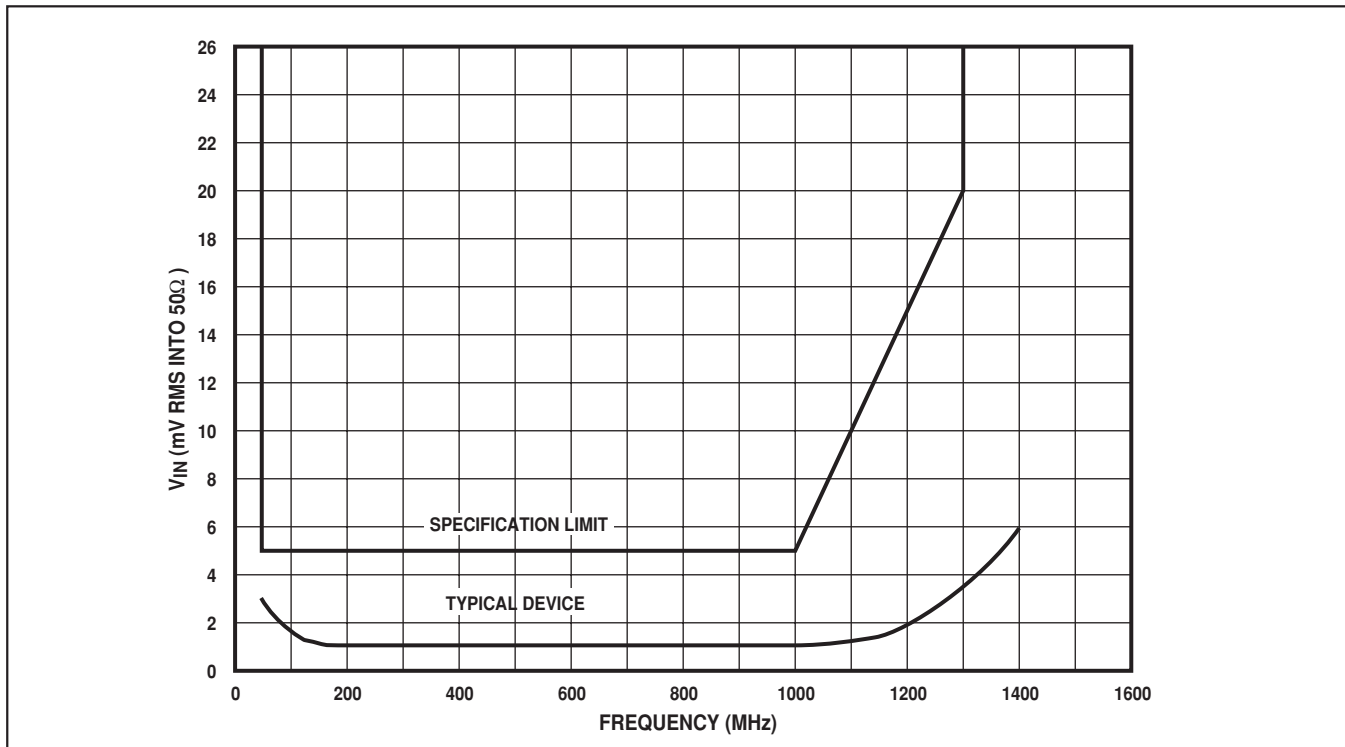


Fig. 5 Typical input sensitivity

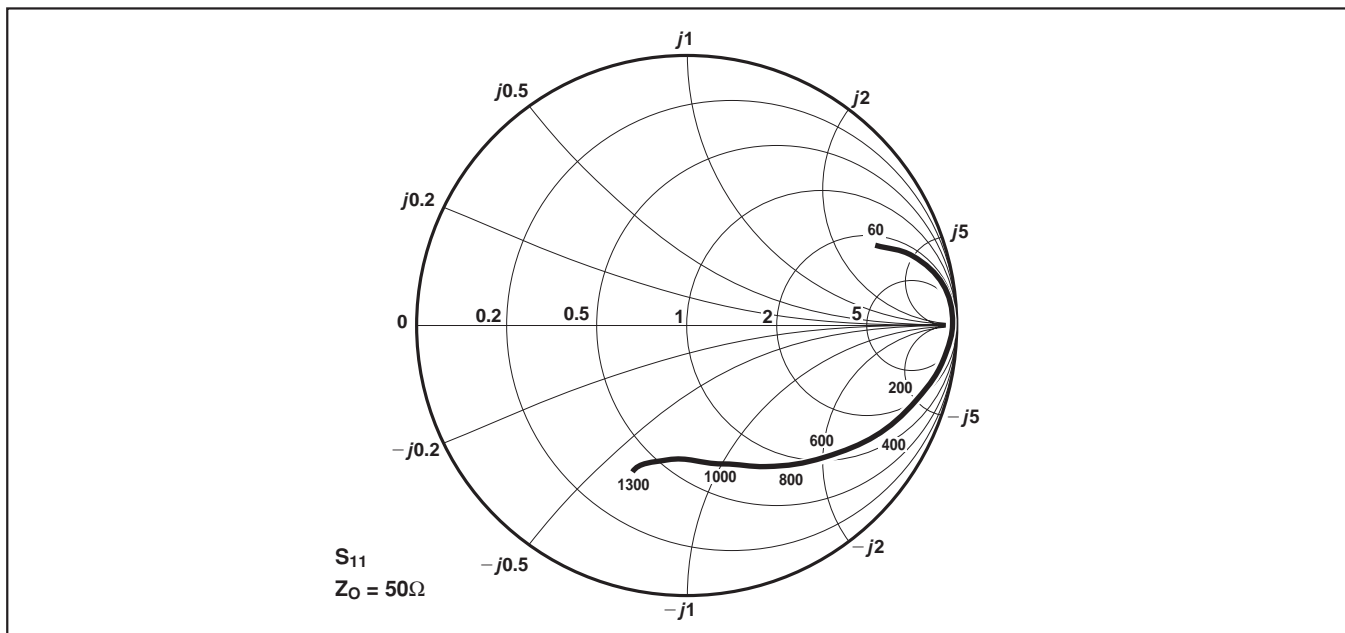


Fig. 6 Typical input impedance (frequencies in MHz)

SP4740



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