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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

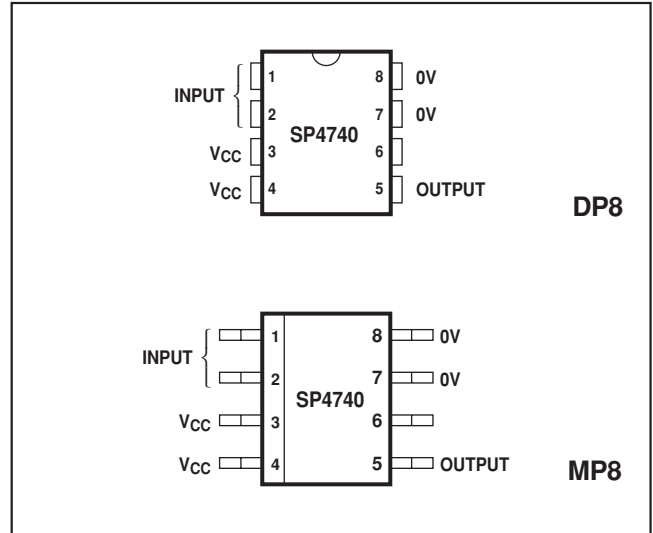


Fig 1. Pin connections - top view

### 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

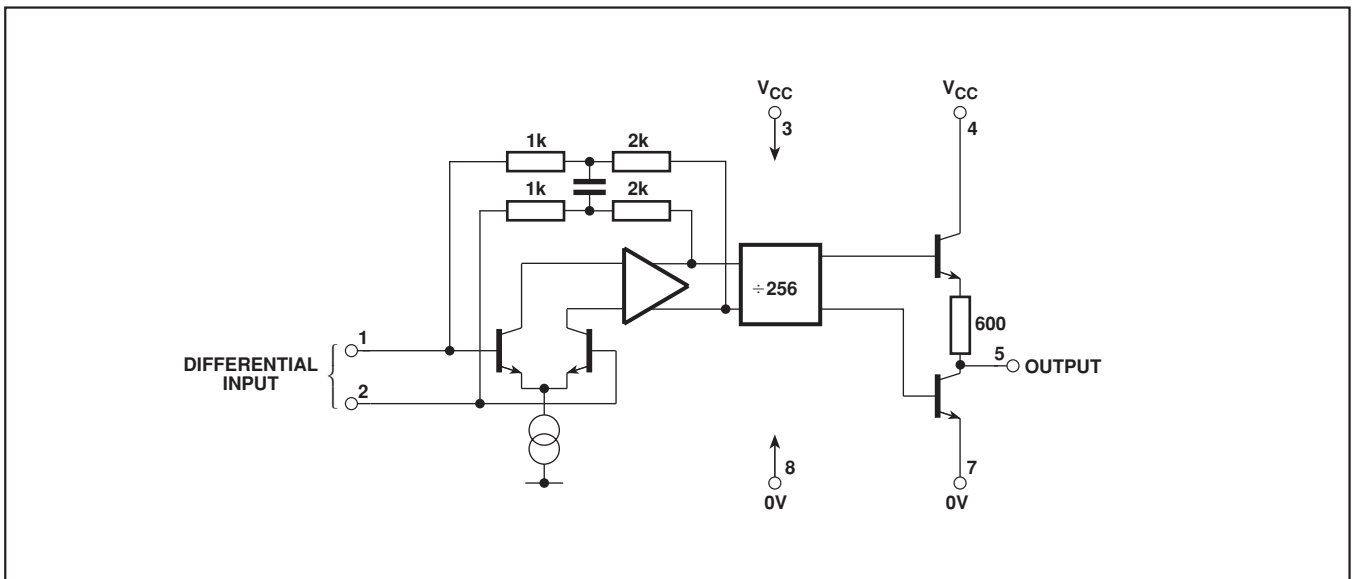


Fig. 2 SP4740 block diagram

# 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  $5.5\text{V}$  (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		$\Omega$	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.

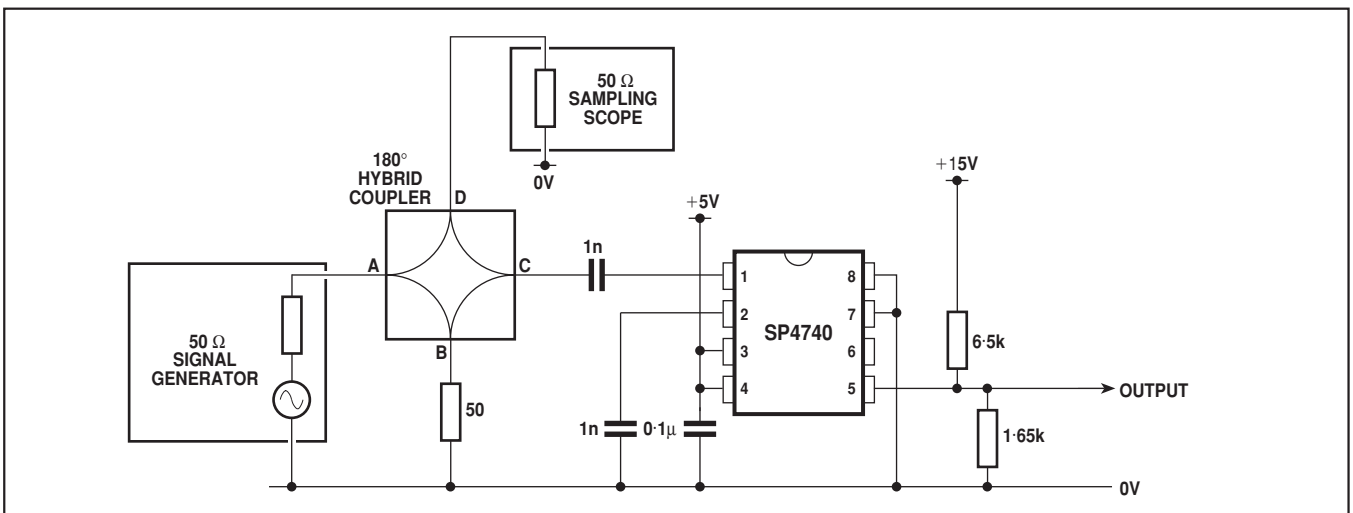


Fig. 3 Test circuit

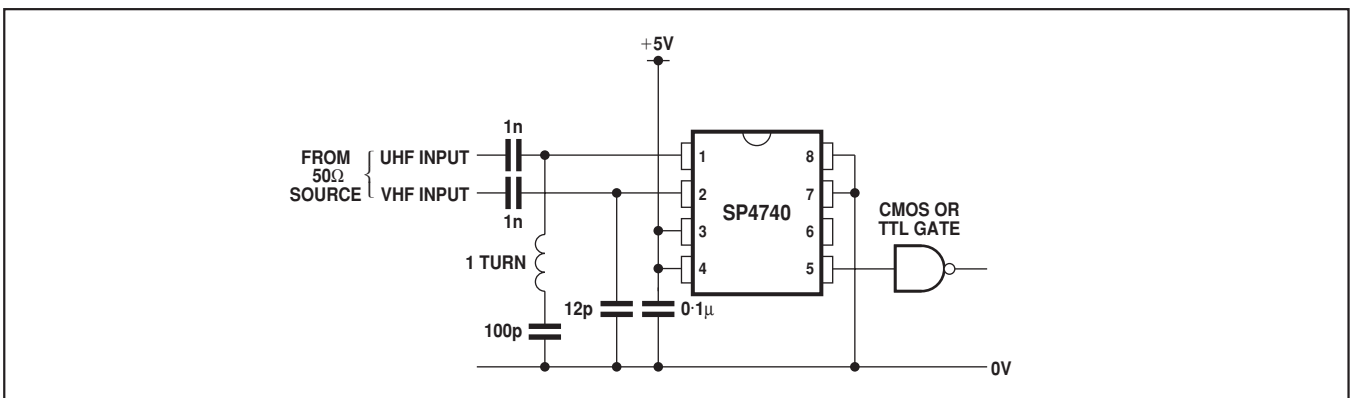


Fig. 4 Application circuit





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