



## SP4550/1

1 GHz ÷ 256

The SP4550/1 are part of the new range of Plessey Consumer high speed dividers which offer improved input sensitivity and higher input impedance.

The devices are intended for use in television frequency synthesis systems. They have a division ratio of 256 with a single, (SP4550) or complementary, (SP4551) ECL output and incorporate an on-chip preamplifier with a differential input. The input pins may be used as UHF and VHF inputs, with only a slight loss of sensitivity, if suitable drive circuitry is employed.

### FEATURES

- On-chip wideband amplifier
- High input sensitivity
- High input impedance
- Low output radiation
- Single (SP4550) or complementary (SP4551) ECL output

### ABSOLUTE MAXIMUM RATINGS

Supply voltage, $V_{CC}$	+7V
Input voltage	2.5V p-p
Ambient operating temperature	-10°C to +65°C
Storage temperature	-55°C to +125°C

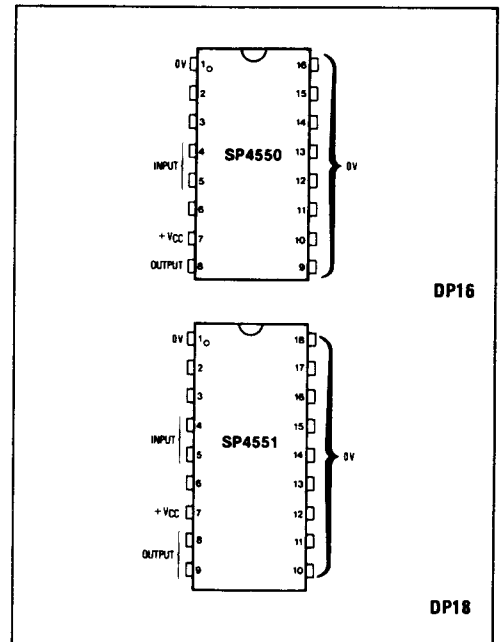


Fig.1 Pin connections

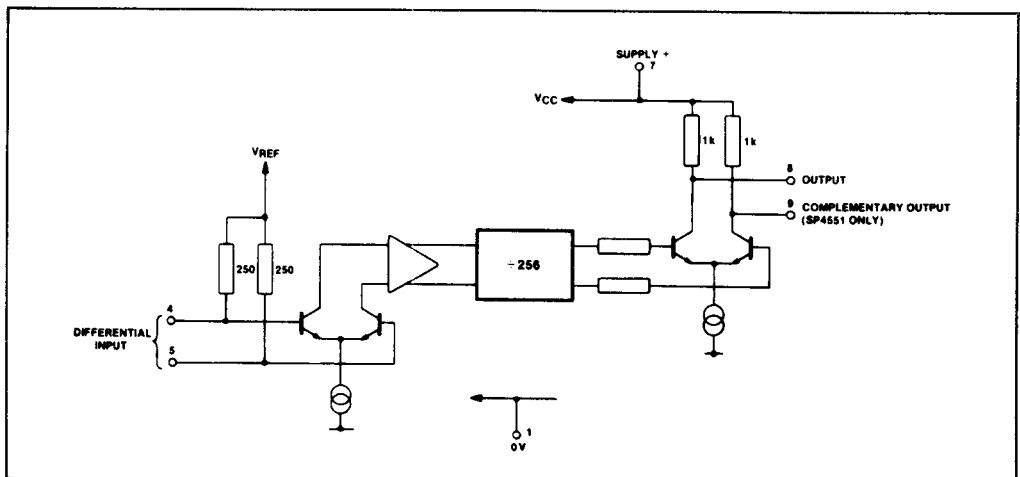


Fig.2 SP4550/1 block diagram

### ELECTRICAL CHARACTERISTICS (see Fig.3)

Test Conditions (unless otherwise stated):

$T_{amb} = +25^{\circ}\text{C}$ ,  $V_{CC} = +5\text{V}$

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Operating voltage range	7	4.5	5	5.5	V	Sine wave into 50Ω
Supply current	7		60	90	mA	
Input voltage, $V_{IN}$ ,	4, 5	80 MHz	17.5	200	mVrms	
		300 MHz	17.5	200	mVrms	
		500 MHz	17.5	200	mVrms	
		700 MHz	17.5	200	mVrms	
		1000 MHz	17.5	200	mVrms	
Output voltage	8	0.8			Vp-p	No load SP4551 only
	9	0.8			Vp-p	
Output imbalance	8, 9			0.1	V	SP4551 only
Output impedance	8		1		kΩ	SP4551 only
	9		1		kΩ	

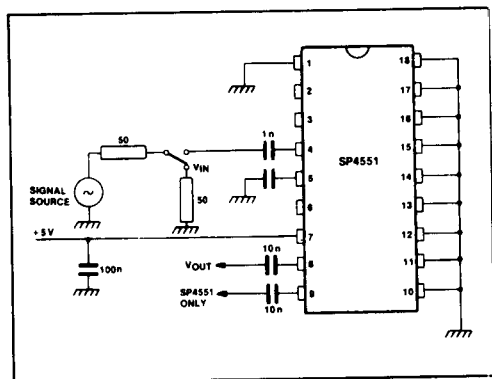


Fig.3 Test configuration

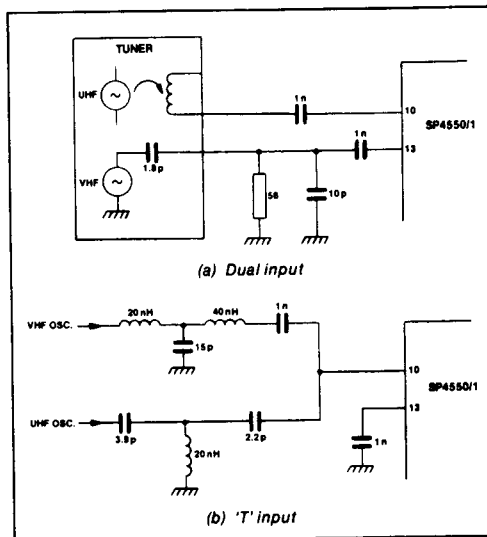


Fig.4 Combined input operation

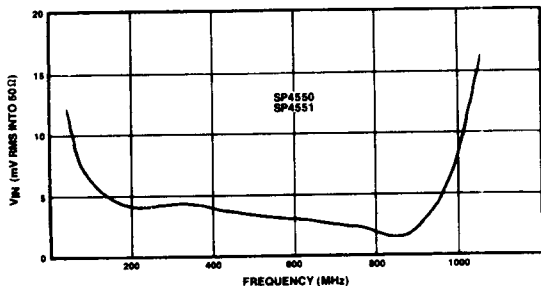


Fig.5 Typical input sensitivity

