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# SP8704

## 950MHz VERY LOW CURRENT MULTI-MODULUS DIVIDER

The SP8704 is a switchable divide by 128/129, 64/65 programmable divider with a maximum specified operating frequency of 950MHz.

The signal (clock) inputs are biased internally and require to be capacitor coupled.

The SP8704 will operate from any supply from 3V to 5V and features full electrostatic discharge protection.

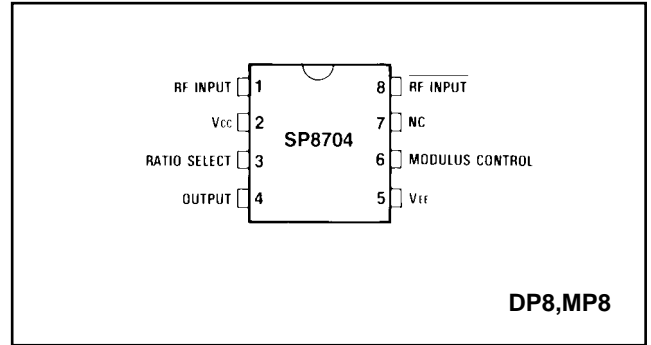


Fig. 1 Pin connections - top view

### FEATURES

- DC to 950MHz Operation
- -40°C to +85°C Temperature Range
- Operation from 3V to 5V Supply
- ESD Protection on all Pins

### QUICK REFERENCE DATA

- Supply Voltage 3V to 5V
- Supply Current 10mA - Including Output Emitter Follower

### ABSOLUTE MAXIMUM RATINGS

Supply voltage	7V
Storage temperature range	-55°C to +125°C
Junction temperature	+175°C
Input voltage	2.5V p-p

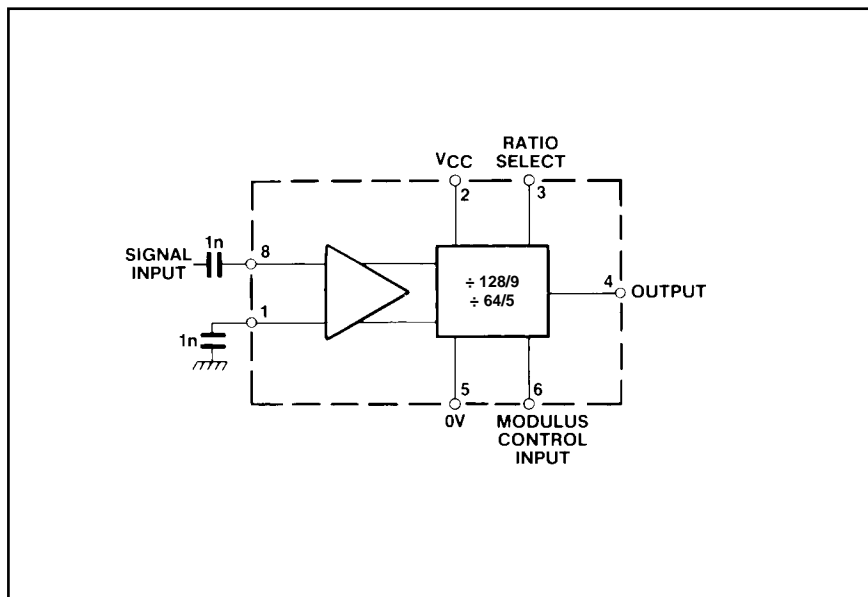


Fig. 2 Functional diagram SP8704

**SP8704**

**ELECTRICAL CHARACTERISTICS**

Test conditions (unless otherwise stated):

$T_{amb} = -40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ ,  $V_{CC} = +2.75\text{V}$  to  $+5.5\text{V}$

Characteristic	Value			Units	Conditions
	Min.	Typ.	Max.		
Supply current		10		mA	Including output emitter follower Sinewave input into 50
Input sensitivity	10MHz		150	mV rms	
	80MHz		25		
	150MHz		15		
	850MHz		15		
	950MHz		50		
Input impedance		50			Emitter follower output current source = 0.75mA
Output		2		pF	
		1		V pk-pk	
Ratio select (pin 3)	LO		1	V	
	HI	$V_{CC}$		V	
Modulus control (pin 6)	LO		1	V	
	HI	2		V	
Clock to output delay		8		ns	
Set up time		16		ns	
Release time		16		ns	

**TRUTH TABLE**

Pin 3	Pin 6	Division ratio
L	L	129
L	H	128
H	L	65
H	H	64

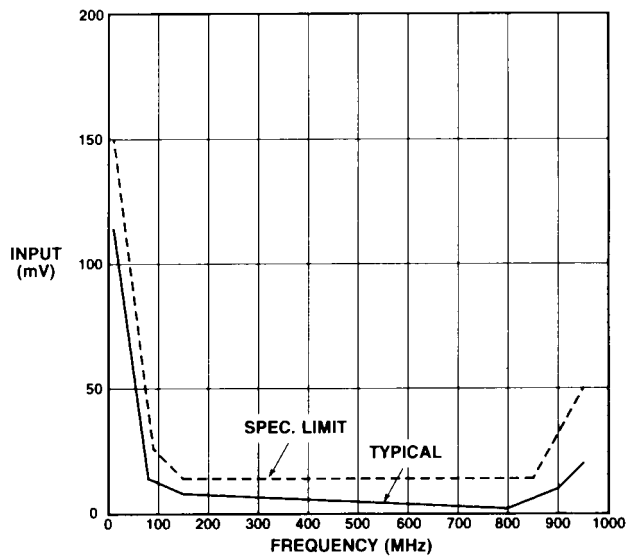


Fig. 3 Typical input sensitivity at 85°C





HEADQUARTERS OPERATIONS

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