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RECOMMENDED FOR NEW DESIGNS***

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.

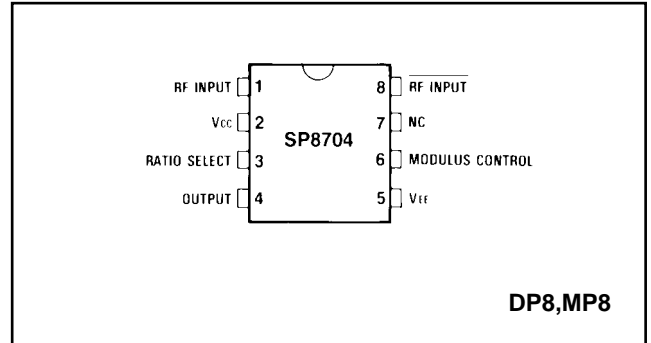


Fig. 1 Pin connections - top view

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 |

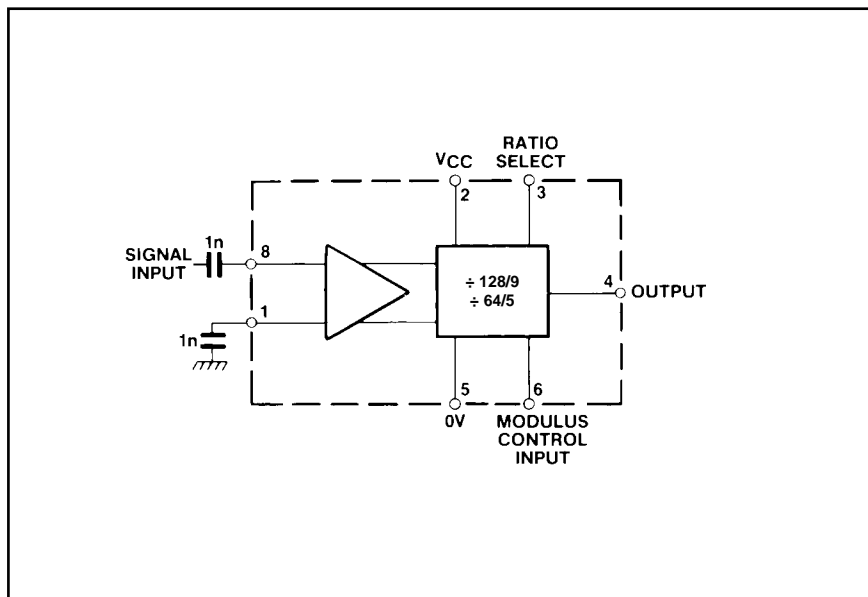


Fig. 2 Functional diagram SP8704

SP8704

ELECTRICAL CHARACTERISTICS

Test conditions (unless otherwise stated):

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

| 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 |

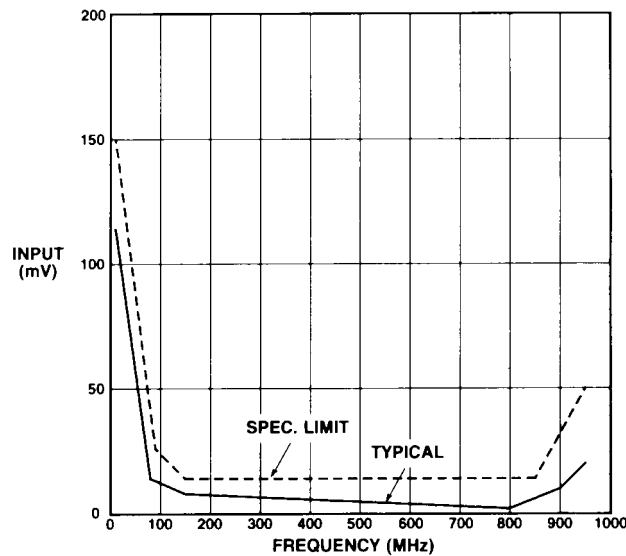


Fig. 3 Typical input sensitivity at 85°C



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