

# FREQUENCY SYNTHESIZER

**Model 456080**

**4000 - 4500 MHz**

## Features

- Low Phase Noise
- Low Spurious Outputs
- High Reliability
- Internal Reference Model

## Specifications

CHARACTERISTIC	TYPICAL Ta = +25 °C	MIN/MAX Ta = -10°C to +60 °C
Frequency (MHz)	4000 - 4500	4000 - 4500
Output Power (dBm)	+13	0 / +17.0
Step Size (MHz)	10	—
Stability (ppm)	±10	—
Harmonics (dBc)	-20	-15 Max.
Spurious (dBc)	-80	-80 Max.
Phase Noise (4000 MHz)	-49 dBc/Hz @ 10 Hz -79 dBc/Hz @100 Hz -86 dBc/Hz @ 1 kHz -89 dBc/Hz @ 10 kHz -122 dBc/Hz @ 100 kHz -140 dBc/Hz @ 1 MHz	—
Power	Vdc mA	+15 70
		+15 90 Max.

NOTE: Care should always be taken to effectively ground the case of each unit.

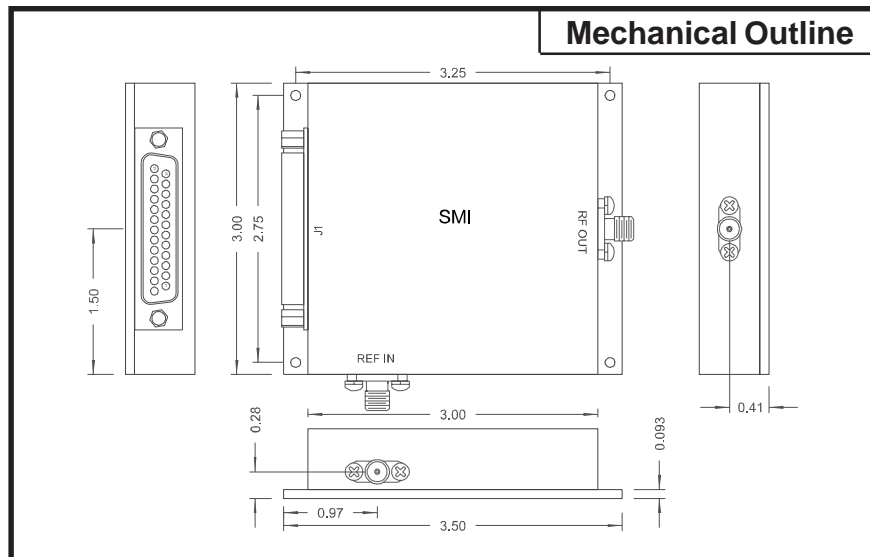
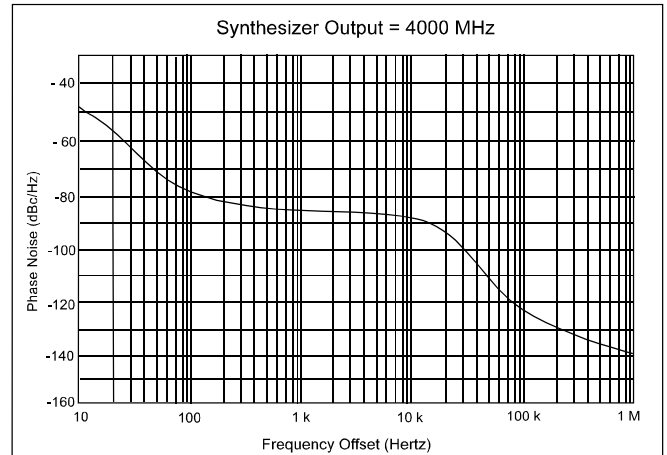
## Absolute Maximum Ratings

Ambient Operating Temperature ..... -55°C to +100 °C  
 Storage Temperature ..... -62°C to +125 °C  
 Case Temperature ..... +125 °C  
 DC Voltage ..... +24 Volts  
 Maximum DC Tuning Voltage ..... +20 Volts  
 Minimum DC Tuning Voltage ..... 0 Volts

**Spectrum Microwave** can design a synthesizer to meet your requirements, from low-cost surface mount commercial units to complex multiple conversion designs for military and space applications.

We have delivered units with step sizes from 0.002 Hz to 200 MHz, 5-microsecond switching speeds, automatically switched back-up references, direct digital synthesis, and many other special features.

## Typical Performance Data



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