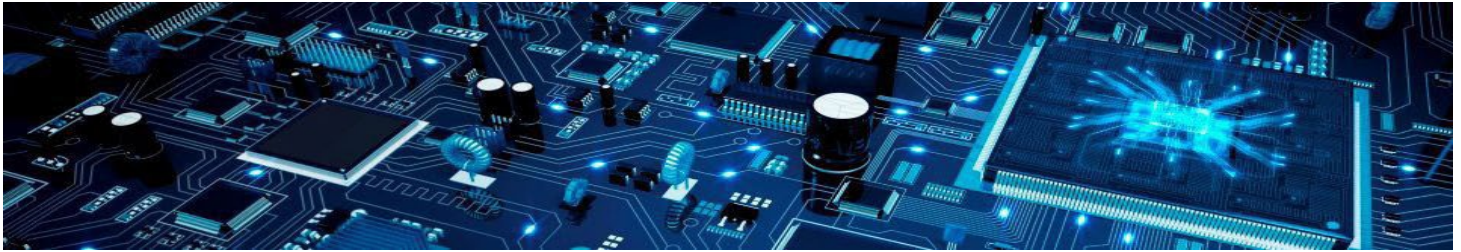


TDFFS014

12.5 GHz to 13.9 GHz FRAC-N Frequency Synthesizer



Overview

The TDFFS014 is a fractional-N frequency synthesizer module with 12.5-13.9 GHz and 6.25-6.95 GHz outputs. The module is optimized for commercial space and high reliability applications and has superior phase noise performance.

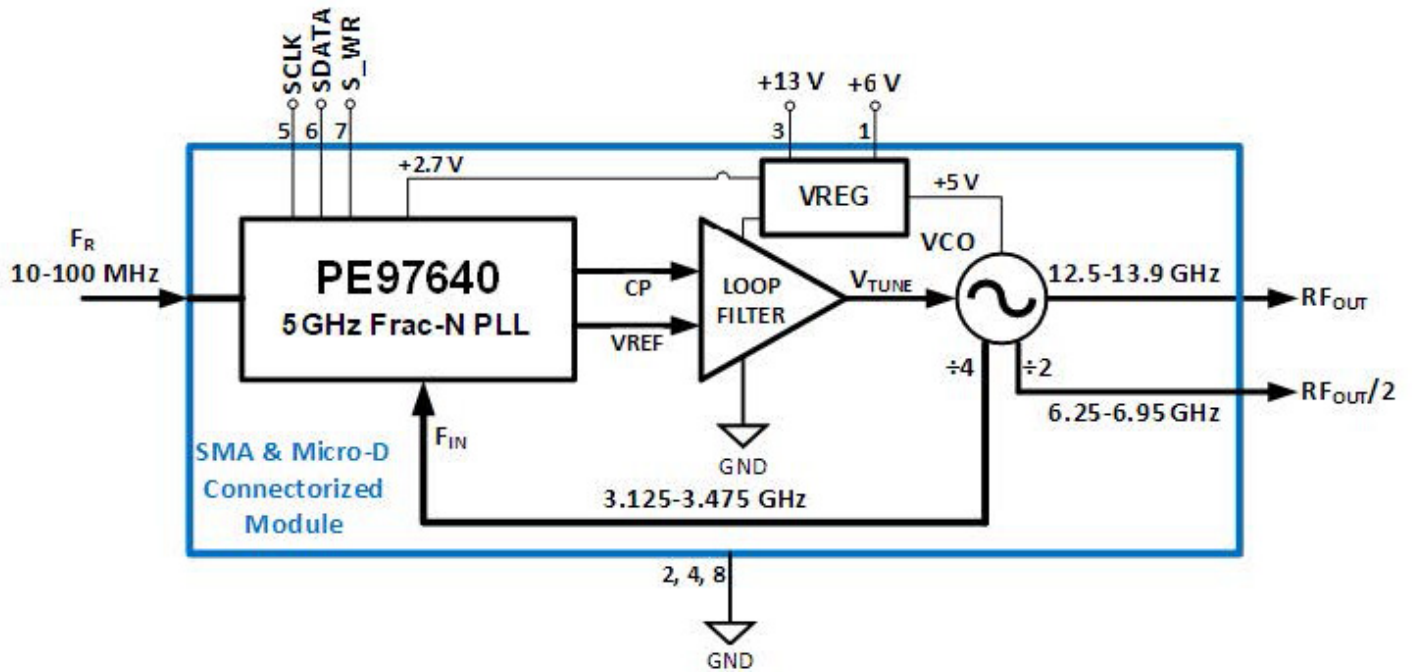
The TDFFS014 features a radiation-tolerant Teledyne PE97640 Frac-N PLL, active 5th order loop filter, GaAs InGaP HBT MMIC VCO with integrated div-by-4 and div-by-2 prescalers, and voltage regulators for low phase noise operation. Reference oscillator input and RF outputs are SMA connectors. Power supply inputs, 3-wire serial interface, and ground are made through a female, 15-pin Micro-D connector.

Features

- Dual Output Frequencies:
 - 12.5-13.9 GHz on RFOUT
 - 6.25-6.95 GHz on RFOUT/2
- Output Power +10 dBm (typical)
- Phase noise (13 GHz @100 kHz offset)
 - -102 dBc/Hz (typical)
- 3-Wire Serial Programming Interface
- Power Requirements (typical):
 - +6.0 V @ 380 mA
 - +13.0 V @ 350 mA
- Available with seam welded or bolt-on housing lids.

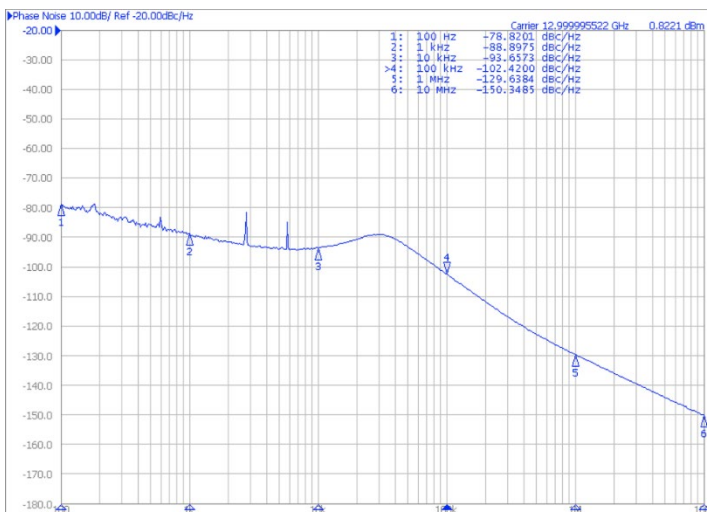


Block Diagram



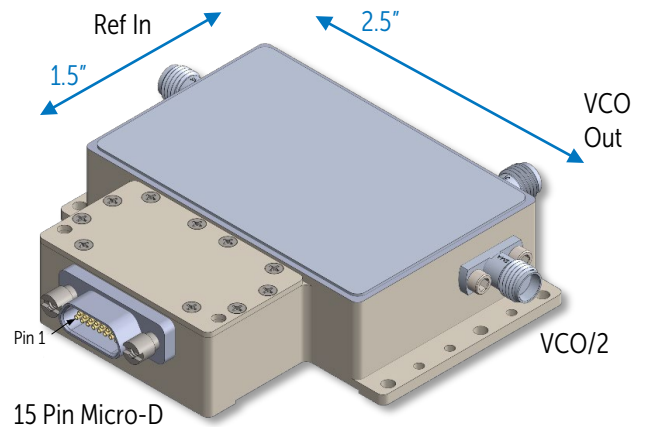
Phase Noise Performance

Result for 13.0 GHz output showing better than -102 dBc/Hz at 100 kHz offset.



Physical

Dimensions are approximate.



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Information subject to change without prior notice.