

ADF4000 Series Integer-N PLL Frequency Synthesizers

Analog Devices' ADF4000 series offer a choice of industry-standard pinout with improved performance, or new pinout with increased software programmability.

IMPROVE PERFORMANCE WITH NEW PLL SYNTHE-Sizers in Proprietary and Industry-Standard Pinouts

The ADF4000 series of PLL synthesizers consists of single and dual devices in a range of configurations and frequency ranges. Using a high-performance BiCMOS process technology, phase noise is typically 6 dB better than other manufacturers' products.

The ADF4116, ADF4117, and ADF4118 are pin-compatible lower-phase-noise replacements for the LMX2306, LMX2316, and LMX2326, single devices respectively. These devices use fixed dual-modulus prescalers, and can operate up to 3.0GHz (ADF4112). Drop-in replacements for the LMX dual devices are also available.

The ADF4110 through ADF4113 single devices (and ADF4210 through 4213 dual devices) offer additional functions in a nearly identical pin configuration. This change allows many more features to be software-controlled, including prescaler division ratio, anti-backlash pulse width, and charge-pump current. Operation up to 4.0GHz is possible.



FEATURES

- Pin-compatibility with LMX-23xx series synthesizers allows easy system performance improvements with no hardware or software changes.
- Proprietary pinout versions allow additional flexibility and system optimization.
- All devices available in 16-pin TSSOP and 20-lead LPCC 4 x 4 mm chip-scale packages.
- Wide operating power supply range (+2.7 to +5/.5 Volts), with separate Vp for extended tuning range in 3-Volt systems.
- Low supply current (typically 4.5 mA for the lower-frequency devices, slightly higher for devices operating above 1.2 GHz); all devices include low-current standby mode.
- Evaluation boards and software are available for all devices.





Single PLL Selection Table

Model	Max Freq	
ADF4110	550MHz	
ADF4111	1.2GHz	
ADF4112	3.0GHz	
ADF4113	4.0GHz	

Performance Upgrade Products

Model	Max Freq	NS Model
ADF4116	550MHz	LMX2306
ADF4117	1.2GHz	LMX2316
ADF4118	2.8GHz	LMX2326





Dual PLL Selection Table

Model	Max Freqs
ADF4210	0.55/1.2GHz
ADF4211	0.55/2.0GHz
ADF4212	0.9/2.7GHz
ADF4213	0.9/3.0GHz

Performance Upgrade Products

Model	Max Freqs	NS Model
ADF4206	0.5/0.5GHz	LMX2337
ADF4207	1.1/1.1GHz	LMX2335
ADF4208	1.1/2.0GHz	LMX2336
ADF4216	0.5/1.2GHz	LMX2332
ADF4217	0.5/2.0GHz	LMX2331
ADF4218	0.5/2.5GHz	LMX2330



ANALOG DEVICES IN COMMUNICATIONS

Analog Devices is recognized for its unparalleled technical capabilities in analog, digital, and mixed-signal processing used in RF signal processing, data conversion, interfaces, and total system design. The company develops and offers customers a wide range of innovative wireless and broadband wired communications products including solutions for GSM, CDMA (Code Division Multiple Access); cellular base stations/software radio; RF and IF (intermediate frequency) circuits, and xDSL. The company is committed to supplying the communications industry with the highest performance solutions at the lowest possible cost.



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H3885-8-6/00(rev. 0)