



Blue Tops RF Modules > Low Noise Programmable Divide-by-N

Features:

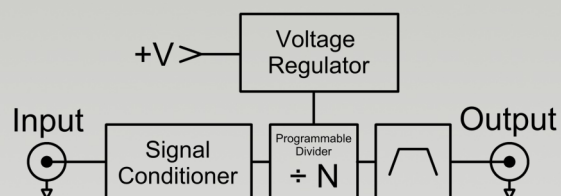
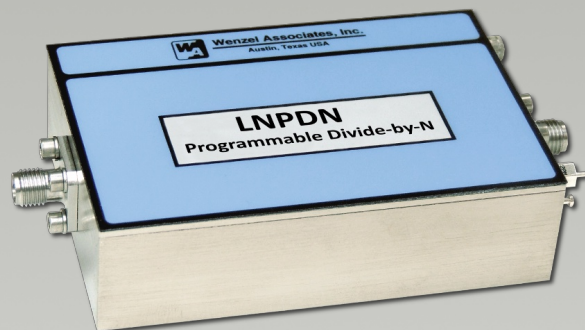
- Programmable Division: 2 to 256
- Output Waveform: Sine or Square
- Intrinsic Phase Noise to -170 dBc/Hz
- Optional Output Bandpass Filter
- Low Power Consumption

Applications:

- Synthesizer Building Block
- Communication Systems
- Radar Systems
- Electronic Warfare Systems

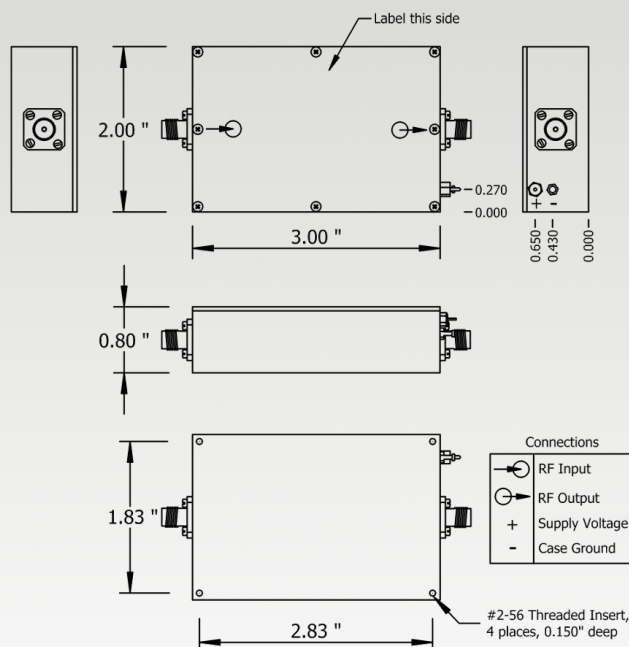
Description:

The LNPDN is a frequency divider module with a customer specified programmable division factor from 2 to 256 for input frequencies up to 700 MHz for the high frequency model and to 200 MHz for the ultra low phase noise model, which includes a noise "clean-up" circuit. The division factor is set by internal jumpers which are factory set to the specified N value. Input and output pads allow easy modification of the levels and an optional output bandpass filter provides a sinewave output for fixed output frequency applications.



Electrical Specifications	≤ 200 MHz (with Clean-Up)	to 700 MHz (No Clean-Up)
Division Factor	2 to 256	2 to 256
Input Frequency	≤ 200 MHz, fixed	to 700 MHz, fixed
Input Level	+10 dBm to +15 dBm, fixed (±1 dB)	0 dBm to +10 dBm, fixed (±1 dB)
Output Frequency	down to 5 MHz (sine); to 10 kHz (square)	down to 5 MHz (sine); to 10 kHz (square)
Output Waveform	Sine or Square	Sine or Square
Output Level	Sine: to +10 dBm (±2 dB) Square: AC MOS (5V); AC-Coupled AC MOS (5V)	to 0 dBm (±2 dB) PECL (5V), AC-Coupled ECL (5V) or TTL (5V)
Phase Noise, Residual (Intrinsic, Output Referred)	-170 dBc/Hz (100 kHz offset); 100 MHz/10	-148 dBc/Hz (100 kHz offset); 500 MHz/5
Harmonics	≤ -25 dBc (sine)	≤ -25 dBc (sine)
Sub-Harmonics	≤ -50 dBc (sine)	≤ -50 dBc (sine)
Spurious (Excluding Power Supply Line Related Spurs)	≤ -80 dBc	≤ -80 dBc
Supply Voltage	+15 VDC ±5%	+15 VDC ±5%
Current Draw	≤ 250 mA	≤ 250 mA
Operating Temperature	0 to +50°C	0 to +50°C
Storage Temperature	-40 to +85°C	-40 to +85°C
Mechanical		
Dimensions	3" x 2" x 0.8"	3" x 2" x 0.8"
DC Supply	Feed Thru Capacitor Solder Pin	Feed Thru Capacitor Solder Pin
Ground	Turret Terminal Solder Pin	Turret Terminal Solder Pin
RF Input / Output	SMA female *	SMA female *

* SMA female connectors are used unless otherwise specified. Other options include SMA male, right angle SMAs, BNC female and others. Contact factory for custom configurations.



Crystal Oscillators

• **RF Modules**

• Frequency Sources

• IMAs

• Military

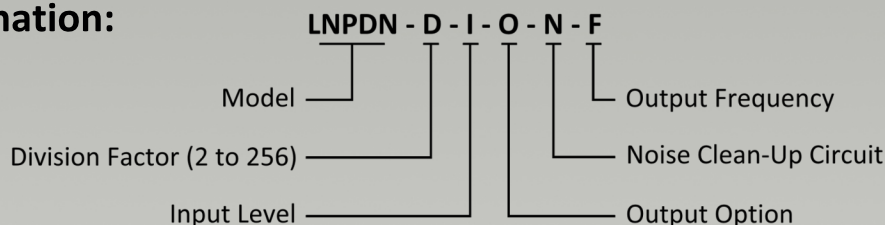
• Space





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Ordering Information:



D	Division Factor	The division factor is set by internal jumpers which are factory set to the specified N value. They are easily changed using a programming guide matrix (included inside the lid).	#	Specify the Preset Division Factor within this range: 2 to 256
I	Input Level	Input Frequency up to 700 MHz (no-clean-up circuit)	#	Specify Input Level in dBm within this range: 0 to +10 dBm
		Input Frequency ≤ 200 MHz (includes clean-up circuit)	#	Specify Input Level in dBm within this range: +10 to +15 dBm
O	Output Option	No Clean-Up Circuit	A	Positive Voltage ECL (PECL)
			B	AC-Coupled ECL
			E	Sinewave (0 dBm ±2 dB)
			G	TTL (5V)
		With Clean-Up Circuit	C	ACMOS
			D	AC-Coupled ACMOS
			F	Sinewave (+10 dBm ±2 dB)
N	Noise Clean-Up Circuit	Input frequency up to 700 MHz	0	No Noise Clean-Up (-148 dBc/Hz, typical); 500 MHz/5
		Input frequency ≤ 200 MHz and output frequency ≤ 50 MHz	1	Noise Clean-Up (-170 dBc/Hz, typical); 100 MHz/10
F	Output Frequency	Squarewave Output; Does not include output bandpass filter	B	Broadband
		Sinewave Output; Includes output bandpass filter; 5 MHz minimum	#	Specify Output Frequency in MHz

Standard P/N	Input Frequency	Input Level	Preset Division Factor	Output Frequency	Output Level	Output Type	Clean-Up Circuit	Output Referred Residual Phase Noise (100 kHz offset)	Supply Voltage
LNPDPN-64-10-D-1-1.5625	100 MHz	+10 dBm	÷ 64	1.5625 MHz	AC-Coupled ACMOS	Square	Yes	-168 dBc/Hz	+15 VDC
LNPDPN-64-0-E-0-10	640 MHz	0 dBm	÷ 64	10 MHz	0 dBm	Sine	No	-148 dBc/Hz	+15 VDC
LNPDPN-2-0-B-0-B	to 700 MHz	0 dBm	÷ 2	Broadband	AC-Coupled ECL	Square	No	-148 dBc/Hz	+15 VDC
LNPDPN-8-0-G-0-B	to 700 MHz	0 dBm	÷ 8	Broadband	TTL (5V)	Square	No	-148 dBc/Hz	+15 VDC
LNPDPN-256-0-B-0-B	to 700 MHz	0 dBm	÷ 256	Broadband	AC-Coupled ECL	Square	No	-148 dBc/Hz	+15 VDC
LNPDPN-5-13-F-1-10	50 MHz	+13 dBm	÷ 5	10 MHz	+10 dBm	Sine	Yes	-170 dBc/Hz	+15 VDC
LNPDPN-10-10-F-1-10	100 MHz	+10 dBm	÷ 10	10 MHz	+10 dBm	Sine	Yes	-170 dBc/Hz	+15 VDC
LNPDPN-20-10-F-1-10	200 MHz	+10 dBm	÷ 20	10 MHz	+10 dBm	Sine	Yes	-168 dBc/Hz	+15 VDC

