

Product Overview

NB3N502: PLL Clock Multiplier, 14 MHz - 190 MHz, 3.3 V / 5.0 V

For complete documentation, see the data sheet.

The NB3N502 is a clock multiplier device that generates a low jitter, TTL/CMOS level output clock which is a precise multiple of the external input reference clock signal source. The device is a cost efficient replacement for the crystal oscillators commonly used in electronic systems. It accepts a standard fundamental mode crystal or an external reference clock signal. Phase-Locked-Loop (PLL) design techniques are used to produce an output clock up to 190 MHz with a 50% duty cycle. The NB3N502 can be programmed via two select inputs (S0, S1) to provide an output clock (CLKOUT) at one of six different multiples of the input frequency source, and at the same time output the input aligned reference clock signal (REF).

Features

- Clock Output Frequency up to 190 MHz
- Operating Range: VDD = 3 V to 5.5 V
- Low Jitter Output of 15 ps One Sigma (RMS)
- Zero ppm Clock Multiplication Error
- 45% 55% Duty Cycle
- Crystal Reference Input Range of 5 MHz to 27 MHz
- Input Clock Frequency Range of 2 MHz to 50 MHz
- Full Industrial Temperature Range -40C to 85C

Applications

- Clock Generation
- Consumer Electronics
- Industrial
- Networking and Telecommunication

End Products

- Set Top Box
- Servers
- Routers
- Desktop Computer

Part Electrical Specifications

Product	Compliance	Status	Input Level	Output Level	V _S Typ (V)	f _{in} Typ (MHz)	f _{out} Typ (MHz)	t _{jitter} (C) Typ (ps)	t _{jitter} (P) Typ (ps)	t _{jitter} (Φ) Typ (ps)	t _R & t _F Typ (ps)	t _R & t _F Max (ps)	T _A Min (°C)	T _A Max (°C)	Package Type
NB3N502DG	Pb-free	Active	CMOS	CMOS	3	2-50	14-190	±40	15		1000	1000	-40	85	SOIC-8
	Halide free		Crystal		5.5	5-27									
NB3N502DR2G	Pb-free	Active	Crystal	CMOS	5.5	2-50	14-190	±40	15		1000	1000	-40	85	SOIC-8
	Halide free		CMOS		3	5-27									

For more information please contact your local sales support at www.onsemi.com.

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