

June 10th, 2021
 Nihon Dempa Kogyo Co., Ltd.
 Representative Director and President
 Hiromi Katoh

Development of industry-leading^(*) compact, low-phase jitter differential-output crystal oscillator

Nihon Dempa Kogyo Co., Ltd. has developed the industry-leading compact low-phase jitter differential-output crystal oscillator (2.5×2.0×0.9mm). Sample shipments has started from Jun. 2021.

With the introduction of fifth-generation mobile communication systems (5G) and the widespread use of video distribution services, the volume of communications in communications networks, including data centers, continues to increase, and optical communication modules used in optical communication devices are becoming faster and more compact to accommodate 400Gbps^(*) Ethernet. Because of this high-speed communication, a low noise level is required for the communication signal, and a lower noise level (low phase jitter) is required for the reference clock.

To meet these demands, in January 2021 we released a 2520-size compact differential output crystal oscillator (phase jitter: max. 100fs). Applying this technology, we have developed a LVPECL, LVDS differential output crystal oscillator that is compact and has low phase jitter characteristic by advancing technology development of a low-noise-designed ICs for differential oscillations. (Phase jitter: max.60fs)

We will continue to contribute to the realization of a safe, secure, and comfortable society through our crystal device business by offering a lineup of products that are even smaller, higher frequency, and have lower phase jitter.



(*1): Phase jitter: Max. 60fs, oscillation frequency: 156.25MHz, power supply voltage: +3.3V,
 12kHz to 20MHz, +25deg.C (Based on our survey in May 2021)

(*2): Gbps <(gigabits per second) 1 billion bits per second >

[Sample and mass production]

Sample shipment started in June 2021 and mass production is scheduled for April 2022.

[Product Characteristics]

	NP2520SAB	NP2520SBB
Product appearance		
Dimension	2.5×2.0×Max.0.9 mm	
Nominal frequency range	100MHz~170MHz	
Output support	LVPECL	LVDS
Operating temperature range	-40deg.C ~ +85deg.C (Option : -40deg.C ~ +105deg.C)	
Total frequency tolerance	Max.±50×10 ⁻⁶	
Power supply voltage [VCC]	+2.5V/+3.3V	
Phase Jitter (12kHz~20MHz) 156.25MHz、+25deg.C	Max.60fs	

[Example of Phase Noise Characteristic Data]

Conditions: Nominal frequency 156.25MHz, LVPECL out,
power supply voltage [VCC] +3.3V, temperature +25deg.C



Conditions: Nominal frequency 156.25MHz, LVDS out,
power supply voltage [VCC] +3.3V, temperature +25deg.C



For inquiries regarding products, please contact [Contact] below.

[Contact]

NIHON DEMPA KOGYO CO., LTD.

e-mail : newsrelease@ndk.com