

January 29, 2021
 Nihon Dempa Kogyo Co., Ltd.
 Representative Director and President
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Development of 2520-size compact, low-phase jitter type differential output crystal oscillator

Nihon Dempa Kogyo Co., Ltd. has developed a 2.5x2.0x0.9mm-sized, low-phase jitter differential-output crystal oscillator (model: NP2520SA[LVPECL outputting], NP2520SB[LVDS] outputting) for small optical communication modules, and has started shipping samples since January 2021.

With the introduction of the 5th-generation mobile communications system (5G) and the increasing of video distribution services, the volume of communications networks, including data centers, continues to increase. The optical communications modules used in optical communications equipment are becoming faster and smaller for 400Gbps^(※1) 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 needs, we have developed a fundamental crystal resonator using photolithography technology, and achieved to realize a compact, low phase-jitter crystal oscillator by reducing the noise of the oscillator circuit.

We will continue to contribute to the realization of a safe, secure and comfortable society through our quartz device business by offering a product lineup that realizes further miniaturization, higher frequency, and lower phase jitter.

(※1) : Gbps <(gigabits per second per gigabits per second) of 1 billion bits per second>

[Sample and mass production]

Sample shipment: Started in January 2021, Mass production: scheduled for October 2021

[Product appearance]



[Product Characteristics]

	NP2520SA	NP2520SB
Size	2.5 x 2.0 x Max.0.9 mm	
Nominal Frequency Range	100MHz to 170MHz	
Output Response	LVPECL	LVDS
Operating Temperature Range	-40°C ~ +85°C (Option : -40°C to +105°C)	
Overall Frequency Tolerance	Max. +/-50×10 ⁻⁶	
Supply Voltage [V _{CC}]	+2.5V/+3.3V	
Phase Jitter (12kHz to 20MHz) 156.25MHz	max.100 fs	

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