

June 20, 2018
 Nihon Dempa Kogyo Co., Ltd.
 Representative Director &
 Chairman of the Board,
 President and CEO
 Toshiaki Takeuchi

**Development of a size-3225 differential output crystal oscillator
 with industry-leading low phase jitter of 57 fs**

Nihon Dempa Kogyo (NDK) has developed a differential output crystal oscillator with dimensions of $3.2 \times 2.5 \times 1.0$ mm and industry-leading low phase jitter of 57 fs^{*1}. Sample shipment is scheduled to start in June 2018.

In recent years, the fields of high-speed mobile communications, SONET/SDH, 10 Gbit/Ethernet, and serial communications (e.g.: SATA and PCI-Express) have seen increasing demands for lower-jitter clocks to improve performance in fast, high-capacity telecommunications.

To meet these needs, NDK has developed a high-frequency (100 to 170 MHz) fundamental crystal oscillator based on its own well-established photolithographic technology as well as an LVDS differential output crystal oscillator with a phase jitter of 57 fs^{*1} typ. by adopting of a newly designed low-noise differential oscillator IC featuring floor noise of -162 dBc/Hz .

Based on this technology, we plan to expand the product lineup with adoption of PECL and HCSL differential output types.

*1: Oscillation frequency: 156.25 MHz, supply voltage 3.3 V, 12 kHz to 20 MHz

[Appearance]



[Samples / Mass production]

NP3225S []

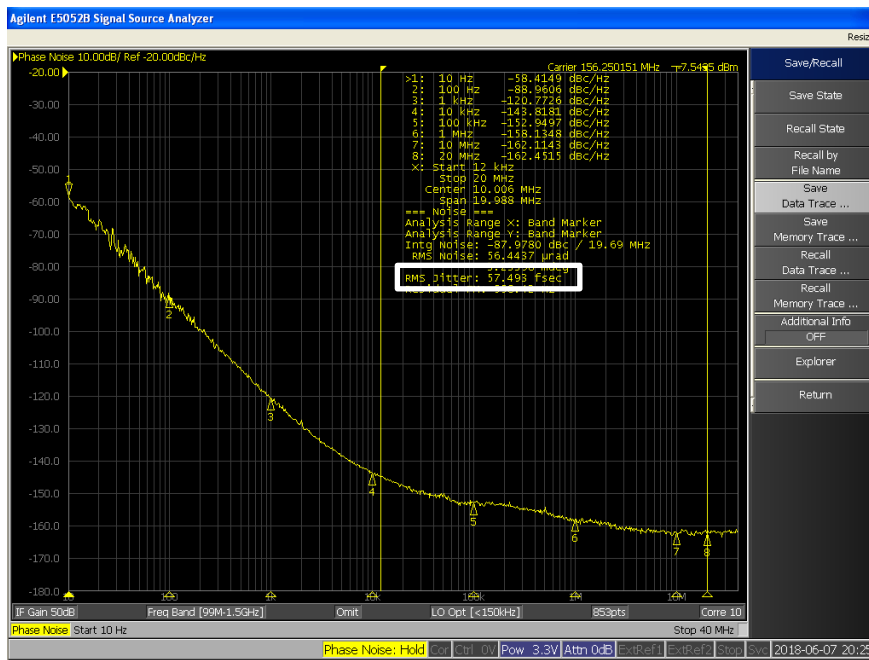
Sample shipment is scheduled to start in June 2018 and mass production in December 2018.

[Product specifications]

	Size 3225
Size	$3.2 \times 2.5 \times \text{max. } 1.0$ mm
Nominal Frequency Range	100 to 170 MHz
Output Type	LVDS
Operating Temperature Range	-40 to +85 °C
Overall Frequency Tolerance	Max. $\pm 50 \times 10^{-6}$
Supply Voltage [V _{CC}]	+3.3 V
Phase Jitter (12 kHz to 20 MHz)	Typ. 57 fs (156.25 MHz)

【Sample phase noise characteristics】

Conditions: Nominal Frequency 156.25 MHz, LVDS Output, Supply Voltage [V_{CC}] +3.3 V,
Temperature +25°C



For more information on the product, please contact:

【Contact Info】

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