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Nihon Dempa Kogyo Co., Ltd.
Representative Director &
Chairman of the Board,
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Toshiaki Takeuchi

Ultra-Low Phase Noise 10MHz Oven Controlled Crystal Oscillator (OCXO)
with Near-carrier noise of -115 dBc/Hz

Nihon Dempa Kogyo Co., Ltd. (NDK) has developed an ultra-low phase noise 10MHz crystal oscillator (NH40M40LA) for use in measuring instruments.

This product is the same size as conventional NDK low phase noise crystal oscillator (40 x 40 mm), but offers world's highest-level characteristics of near-carrier noise (-115 dBc/Hz at 1 Hz) and floor noise (-170 dBc/Hz at 100 kHz).

Today, low phase noise electronic equipment is used in a variety of fields. The noise reduction characteristics of related inspection instruments must be superior to those of the equipment itself. These instruments also require an oscillator based reference signal with extremely low noise to ensure accurate measurement performance.

The trade-off between near-carrier noise and floor noise associated with crystal unit characteristics is generally known. In this product, a combination of NDK's proprietary crystal technology and oscillation circuit technology has produced ultra-low phase noise crystal oscillator characterized by absolute minimum of noise in wide range from near-carrier noise to floor noise. In particular, near-carrier noise is the world's lowest^(*1) for 40 x 40 mm crystal oscillators. Whereby, this product supports superior design and improved performance for electronic equipment such as measuring instruments requiring low phase noise characteristics.

(*1) Based on NDK research as of October 2017

[Appearance]



[Samples / Mass production]

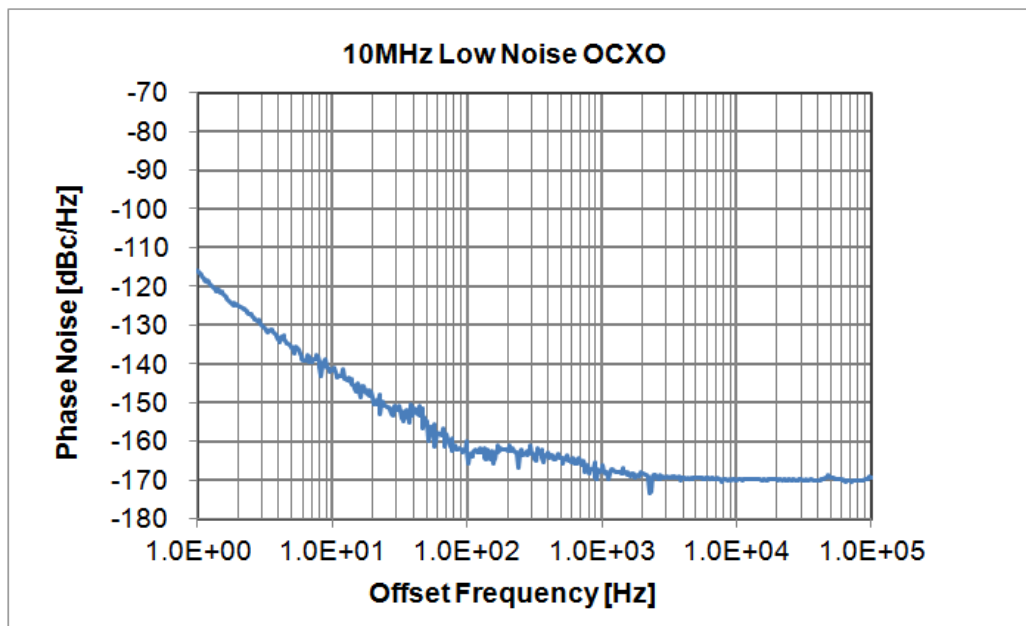
Sample delivery is currently available, and mass production is scheduled to start in February 2018.

[Specifications / Characteristics]

Model	NH40M40LA
Dimensions	40 x 40 x Max. 24.5 mm
Nominal Frequency	10 MHz
Output Waveform	Sine Wave
Operating Temperature Range	-10 deg C to +70 deg C
Frequency Temperature Characteristics	Max. +/-10 x 10 ⁻⁹
Supply Voltage [V _{CC}]	+12 V
Long-term Frequency Stability	Max. +/-100 x 10 ⁻⁹ /year
Phase Noise Characteristics	Typ. -115 dBc/Hz at 1 Hz offset Typ. -170 dBc/Hz at 100 kHz offset

[Phase Noise Characteristics]

Condition: Nominal Frequency 10 MHz, Supply Voltage [V_{CC}] +12 V, Temperature +25 deg C



For more information on the product, please contact:

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