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Nihon Dempa Kogyo Co., Ltd.
Representative Director and President
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# Development of 2016-size crystal oscillator for automotive safety applications

We have developed the industry's smallest 2016-size crystal oscillator (model: NZ2016SHA) for safety applications in the automotive market, and we are pleased to announce that we will begin shipping samples.

In the future, ADAS (*1) markets will expand for autonomous driving, to improve driving safety AEBS (*2) standardized equipment will be mandatory, by installing multiple sensing devices to enhance the basic performance of "running", "turning" and "stopping", making each sensor module more compact and highly accurate.

We have been supplying the high-reliability 2520 size crystal oscillator (model name: NZ2520SHA) for automotive safety applications ahead of the industry.

These products are compatible with high temperatures (125°C) required for automotive applications, and are compliant with AEC-Q100/AEC-Q200 (*3). Severe process control is implemented on automotive dedicated production lines to ensure high quality.

In the future, we will use this technology to offer a product lineup that offers even more compact size and high frequency to meet the needs of our customers.

**[Sample/Mass production]**

Sample shipments are scheduled to begin in February 2020, and mass production is scheduled in October 2020.

**[Sample/Mass production]**

| | Under sale | New products |
|---|---|---|
| Product Size | 2.5x2.0x0.8mm | 2.0x1.6x0.7mm(NEW) |
| Model | NZ2520SHA | NZ2016SHA |
| Product Appearance |  |  |
| Nominal Frequency Range | 32.768kHz<br>1.5 to 125MHz | 32.768kHz<br>1.5 to 80MHz |
| Output | CMOS | |
| Overall Frequency Tolerance/Operating Temperature Range | ±100×10$^{-6}$ / -40～+125℃<br>(The frequency tolerance can be narrowed depending on the nominal frequency and operating temperature range.) | |
| Power Supply Voltage [$V_{CC}$] | +1.8 ～ +3.3V | |
| Phase Jitter (12k to 20MHz) | 90fs(at 125MHz,3.3V) | 100fs(at 80MHz,3.3V) |
| Reliability Standards | AEC-Q100/AEC-Q200 compliant | |

(*1) ADAS : Advanced driver-assistance systems
(*2) AEBS : Advanced emergency braking system
(*3) Reliability Standards for Automotive Components as stipulated by AEC-Q100/AEC-Q200 Council for Electronic Components for Automobiles AEC (Automotive Electronics Council) (AEC-Q100: Standards for Integrated Circuits, AEC-Q200: Standards for Passive Components)

For more information on the product, please contact:

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