



**Product news**

## **High-Reliability Quartz Crystals from Diodes Incorporated Withstand Harsh Conditions in Automotive Applications**

**Plano, Texas – August 29, 2019** – Diodes Incorporated (Nasdaq: DIOD) introduced a series of automotive-compliant timekeeping crystals that withstand harsh operating conditions to ensure outstanding accuracy and reliability in tire-pressure monitoring systems (TPMS), infotainment, telematics, and advanced driver assistance systems (ADAS).

Capable of sustained operation at centrifugal forces up to 1500g, the new [XRQ](#) crystals pass the Society of Automotive Engineers (SAE) J2657 specification for TPMS, now a mandatory safety feature for new cars marketed in territories worldwide. The XRQ series crystals are resistant to shocks up to 8000g, which is significantly higher than the standard (1500g). They also surpass industry-standard JIS-C0044 drop tests by surviving falls of up to 1.2 meters.

XRQ crystals meet the requirements of ultrasonic welding manufacturing processes, which is cleaner than traditional processes and used when manufacturing hermetically sealed objects, such as a TPMS. The process can be used to produce automotive components that must provide superior precision and reliability.

The XRQ series is suitable for automotive applications, both under-the-hood and in passenger-compartment locations. It is AEC-Q200 qualified and available in Grade 1 (-40°C to 125°C), Grade 2 (-40°C to 105°C), and Grade 3 (-40°C to 85°C) temperature ranges. XRQ devices are PPAP capable and are manufactured in IATF16949 certified facilities.

Three standard sizes are available. XR32Q variants in the 3.2mm × 2.5mm outline are available in frequencies from 12MHz to 66MHz. 2.5mm × 2.0mm XR25Q devices are available from 16MHz to 66MHz, and the 2.0mm × 1.6mm XR20Q from 24MHz to 66MHz. The ceramic surface-mount packages are seam-sealed for hermeticity and mechanical integrity.

Further information is available at [www.diodes.com](http://www.diodes.com).

## **About Diodes Incorporated**

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, is a leading global manufacturer and supplier of high-quality application specific standard products within the broad discrete, logic, analog and mixed-signal semiconductor markets. Diodes serves the consumer electronics, computing, communications, industrial, and automotive markets. Diodes' products include diodes, rectifiers, transistors, MOSFETs, protection devices, function-specific arrays, single gate logic, amplifiers and comparators, Hall-effect and temperature sensors, power management devices, including LED drivers, AC-DC converters and controllers, DC-DC switching and linear voltage regulators, and voltage references along with special function devices, such as USB power switches, load switches, voltage supervisors, and motor controllers. Diodes also has timing, connectivity, switching, and signal integrity solutions for high-speed signals. Diodes' corporate headquarters and Americas' sales office are located in Plano, Texas and Milpitas, California. Design, marketing, and engineering centers are located in Plano; Milpitas; Taipei, Taiwan; Taoyuan City, Taiwan; Zhubei City, Taiwan; Manchester, England; and Neuhaus, Germany. Diodes' wafer fabrication facilities are located in Manchester and Greenock, UK, and Shanghai, China. Diodes has assembly and test facilities located in Shanghai, Jinan, Chengdu, and Yangzhou, China, as well as in Hong Kong, Neuhaus and Taipei. Additional engineering, sales, warehouse, and logistics offices are located in Taipei; Hong Kong; Manchester; Shanghai; Shenzhen, China; Seongnam-si, South Korea; and Munich, Germany, with support offices throughout the world.

Recent news releases, annual reports and SEC filings are available at the Company's website: <http://www.diodes.com>. Written requests may be sent directly to the Company, or they may be e-mailed to: [diodes-fin@diodes.com](mailto:diodes-fin@diodes.com).

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