



Industry-First, Automotive-Compliant Dual Power Rail I2C Bus GPIO Expanders from Diodes Incorporated Improve System Design and Flexibility

Plano, Texas – June 1, 2021 – Diodes Incorporated (Nasdaq: DIOD) has announced 16-bit [PI4IOE5V6416Q](#) and 34-bit [PI4IOE5V6534Q](#) bidirectional voltage-level translation general-purpose I/O (GPIO) expanders for automotive applications. Representing an industry first for the automotive industry, the automotive-compliant, AEC-Q100 Grade 2 qualified devices with dual voltage rail provide enhanced programmable I/O for next-generation low voltage microprocessors and microcontrollers via the I2C interface.

As part of Diodes' ongoing expansion into the automotive industry, the new devices provide engineers with a simple solution when additional I/Os are needed while keeping interconnections to a minimum - for example, in ADAS, telematics, and infotainment. Removing the need for an external voltage-level translator simplifies the design of new ADAS and telematics systems, and reduces BOM cost.

Both devices operate from 1.65V to 5.5V on the GPIO port side. On the SCL/SDA side (I2C interface), the PI4IOE5V6416Q operates from 1.65V to 5.5V and the PI4IOE5V6534Q from 0.8V to 3.6V. This dual power rail allows the devices to interface with next-generation low-power microchips on the SCL/SDA side. The expanders offer an exceptionally low standby current consumption of 1.5µA at 5V and 1µA at 3.3V for the PI4IOE5V6416Q and 2µA at 3.3V for the PI4IOE5V6434Q.

Each 16- or 34-bit GPIO on these devices is configurable, and each port features a programmable pull-up or -down resistor and a programmable output current. Unlike many I/O expanders, the [PI4IOE5V6416Q](#) and [PI4IOE5V6534Q](#) also provide programmable open-drain outputs as part of the enhanced I/O features. The devices have an interrupt masking feature, enabling the designer to mask the interrupt from an individual GPIO port and initiate a system-level action.

The 16-bit PI4IOE5V6416Q is packaged in a 24-pin TSSOP, and 34-bit PI4IOE5V6534Q is available in the W-QFN4565-46 package. Both devices support PPAP documentation and are manufactured in IATF 16949 certified facilities. The unit price for the 16-bit PI4IOE5V6416Q is \$1.80 in 3,000 piece quantities and \$2.40 for the 34-bit PI4IOE5V6534Q in 3,500 piece quantities.

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About Diodes Incorporated

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, delivers high-quality semiconductor products to the world's leading companies in the consumer electronics, computing, communications, industrial, and automotive markets. We

leverage our expanded product portfolio of discrete, analog, and mixed-signal products and leading-edge packaging technology to meet customers' needs. Our broad range of application-specific solutions and solutions-focused sales, coupled with worldwide operations of 31 sites, including engineering, testing, manufacturing, and customer service, enables us to be a premier provider for high-volume, high-growth markets. For more information visit www.Diodes.com.

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