



10Gbps Automotive-Compliant Crossbar Switch from Diodes Incorporated Simplifies In-Vehicle USB-C Connectivity

Plano, Texas – May 2, 2024 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) brings extra convenience and performance to state-of-the-art in-car connectivity with the introduction of its 10Gbps automotive-compliant* crossbar switch. Designed for routing USB 3.2 and DisplayPort™ 2.1 signals through a USB Type-C® connector, Diodes' new switch, the [PI3USB31532Q](#), ensures high signal integrity and saves power compared to a conventional crossbar multiplexer and ReDriver™. This crossbar switch is targeted for use in rear-seat entertainment systems and smart cockpits with their large, high-definition displays.

The PI3USB31532Q supports three configuration modes with USB Type-C compliance, providing a range of options for designers. It can connect a single lane of USB 3.2 Gen 2 to the USB Type-C connector; connect one lane of USB 3.2 Gen 2 and two channels of DP 2.1 UHBR10; or connect four channels of DP 2.1 UHBR10. When configured for DisplayPort, the PI3USB31532Q also connects the complementary AUX channels to the USB Type-C sideband pins: SBU1 and SBU2. Its configuration is controlled by I2C or on-chip logic using four external pins.

Packaged in the 40-pin W-QFN3060-40 and occupying only 3mm x 6mm, the PI3USB31532Q delivers flexibility and performance with the advantage of a space-saving outline. High signal integrity is assured with its -3dB bandwidth of 8.3GHz, and low insertion loss, return loss, and crosstalk of -1.7dB, -15dB, and -38dB respectively at 10Gbps.

The new crossbar switch is automotive compliant*—qualified to AEC-Q100 Grade 2, allowing use in environments exposed to temperatures from -40°C to +105°C, manufactured in IATF 16949 certified facilities, and is PPAP capable. The [PI3USB31532Q](#) is available at \$1.10 in 3,500-piece quantities.

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 automotive, industrial, computing, consumer electronics, and communications 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 32 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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