



ReTimers with Adaptive Equalization and Bidirectional Capabilities from Diodes Incorporated Bring Power-Efficient, Low-Latency Operation to USB-C/DP Designs

Plano, Texas – December 8, 2022 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) is targeting growing opportunities in USB Type-C® technology, and lower power operation needs, with two new bit-level retimers. The DIODES™ [PI2DPT1021](#) and [PI2DPT821](#) devices are for use in laptop and desktop PCs, as well as docking stations, computer peripherals, game consoles, and active cables. They provide a compelling combination of industry-leading power efficiency in line with modern CPU platforms, compact form factors, and advanced functionality.

The new retimers each feature receiver adaptive equalization, which means that both long trace and short trace applications can be addressed. This function enables channel loss compensation up to -23dB for signal transmissions at 5GHz speeds and -18dB for 4.05GHz speeds plus jitter cleaning, without the need for a local reference clock.

The PI2DPT1021 supports 10Gbps USB3.2 Gen2 and DisplayPort™ (DP) version 1.4, while the PI2DPT821 supports 8.1Gbps DP1.4 and USB3.2 Gen1 protocols. A bidirectional, high-speed channel is incorporated into each device, which allows the flow from downstream facing ports (DFP) and upstream facing ports (UFP) to be swapped. As a result, engineers have greater layout flexibility when it comes to signal flow direction. In particular, thanks to their bidirectional operation, the PI2DPT1021 and PI2DPT821 are suitable for active cable implementations since both of their end connectors are the same and can act as either a DFP or UFP accordingly.

Other key attributes for these latest Diodes' retimers are an ultra-low latency from signal input to output (<1ns) and a broad temperature range (covering 40°C to +85°C). Both have an I²C programming interface. Automatic power saving modes, applicable to both USB and DP, are pivotal in minimizing energy consumption.

The [PI2DPT1021](#) and [PI2DPT821](#) retimers are supplied in 32-pin QFN packages with 2.85mm x 4.5mm x 0.45mm dimensions. These devices are available at \$1.65 and \$1.28 respectively in 5000 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 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 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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