



**PCI-SIG Developers Conference**  
**June 21-22, 2022**  
**Santa Clara Convention Center**  
**Santa Clara, CA**  
**Booth 8**

## **Diodes Incorporated Unveils Comprehensive PCIe 5.0 Portfolio That Will Increase Trace Lengths, Minimize Losses, and Improve Jitter Performance**

*Latest ReDriver, switch, clock buffer and clock generator devices announced at PCI-SIG Developers Conference*

**Santa Clara, California – June 21, 2022** – Diodes Incorporated (Diodes) (Nasdaq: DIOD) today announced at the PCI-SIG® Developers Conference in Santa Clara, CA, the introduction of a broad portfolio of products supporting the new PCI Express® (PCIe®) 5.0 protocol. This includes ReDriver™, switch, clock generator, and clock buffer devices for use in portable and desktop computing, data centers, and high-performance computing (HPC) applications.

At the forefront of this portfolio is the DIODES™ [PI3EQX32908](#). Supporting the 32Gbps data rates defined by PCIe 5.0 specification, this ReDriver has eight differential channels, with independent channel configuration. Linear equalization, output swing, and flat gain parameters are all programmable, so that the signal loss issues can be minimized and PCB trace lengths extended. In line with Modern Standby requirements, this device draws less than 5mW of power when the system in which it is incorporated is in deep standby mode. As well as PCIe 5.0 architecture, the ReDriver also supports SAS4 and CXL protocols.

Accompanying the PI3EQX32908 is the DIODES™ [PI2DBS32212](#), which is one of the industry's first PCIe 5.0 switches. The bidirectional operation of this two-differential channel device offers 2:1 passive Mux and DeMux functionality. With its unique design, this switch has industry-leading dynamic electrical characteristics that minimize signal attenuation. Bit-to-bit skew is 3ps (typical), while channel-to-channel skew is only 10ps (typical). When operating at 16GHz, both insertion and return losses remain very low, at -2.7dB and -10.8dB respectively. Its 1.8V supply voltage and compact size make this switch highly suited for use in portable electronic equipment. The PI2DBS32212 is also compatible with USB4 Gen 2x1/Gen 3x1 and Thunderbolt™ 3 data signals.

Also, for emerging PCIe technology applications, there is the DIODES™ [PI6CG330440](#), which is a PCIe 5.0 19-output clock generator. This takes a reference input, and then generates 25MHz and 100MHz frequency outputs. It

has seven outputs dedicated to 100MHz and three dedicated to 25MHz clock signals. The remaining nine selectable outputs are capable of driving either 25MHz or 100MHz, as required. The proprietary design used achieves very low jitter performance of less than 50fs.

The DIODES™ [PI6CB332001A](#), is a 20-output fan-out PCIe 5.0 clock buffer that meets the Intel DB2000QL specification. When operating at PCIe 5.0 architecture speeds, this device exhibits minimal additive phase jitter - with 20fs RMS being typical. This gives engineers wider signal integrity margins for their designs.

The on-chip termination on the outputs of both the PI6CG330440 and the PI6CB332001A result in far fewer external components being required, saving board space. Because of their respective Intel CK440Q and Intel DB2000QL compatibility, they present higher performance drop-in replacements for other clock generator/buffers targeted at server applications.

“Diodes Incorporated is a valued member of the PCI-SIG and continues to contribute to the progression of PCIe technology within the electronic engineering community,” said Al Yanes, PCI-SIG President and Chairperson. “Through the semiconductor solutions it introduces, the company is helping the latest generations of PCIe technology gain greater pervasiveness within the market.”

“Emergence of the PCIe 5.0 specification offers the prospect of doubling the bandwidth available, and this will be hugely beneficial in all forms of computing equipment and data storage infrastructure,” adds Dr. Jin Zhao, Senior Vice President, Analog Business Group, Diodes Incorporated. “As speeds increase, access to technology that will ensure signal integrity and mitigate losses is becoming more important than ever. Diodes has made a major commitment to supporting PCIe technology, releasing innovative products to address each protocol generation that has emerged. Our new PCIe 5.0 product portfolio continues to build on this strong track record.”

The PI3EQX32908 is supplied in a 62-pin W-QFN package. The PI2DBS32212 comes in a 24-pin X1QFN package taking up only 2.5mm x 2.5mm of PCB space. The PI6CG330440's 100-pin UQFN package has 8mm x 8mm x 0.6mm dimensions, while the PI6CB332001A 80-pin aQFN package occupies a 6mm x 6mm footprint. The PI3EQX32908 PCIe 5.0 ReDriver and PI2DBS32212 PCIe 5.0 switch are available at \$11 and \$1.20 respectively in 3500 piece quantities. The PCIe 5.0 PI6CG330440 clock generator and PI6CB332001A clock buffer are available at \$6.48 and \$4.80 in 3000 piece quantities.

Those attending the PCI-SIG Developers Conference 2022 (June 21-22, Santa Clara Convention Center, Santa Clara, California) can find Diodes at booth 8.

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, 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](http://www.diodes.com).

**About PCI-SIG**

PCI-SIG is the consortium that owns and manages PCI specifications as open industry standards. The organization defines industry standard I/O (input/output) specifications consistent with the needs of its members. Currently, PCI-SIG is comprised of over 900 industry-leading member companies. To join PCI-SIG, and for a list of the Board of Directors, visit [www.pcisig.com](http://www.pcisig.com).

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