



**For immediate release**

## **Diodes Incorporated Introduces Industry-Leading, High-Speed, Multichannel Mux/Demux Signal Switch ICs, Clock Generators and Clock Buffers for PCIe® 4.0 Architecture and other Applications up to 20Gbps**

*Diodes Incorporated is at Booth 8 at the  
PCI-SIG Developers Conference, Santa Clara CA, June 5-6, 2018*

**Santa Clara, CA – June 5, 2018** – Diodes Incorporated (Nasdaq: DIOD), a leading global manufacturer and supplier of high-quality application specific standard products within the broad discrete, logic, analog and mixed-signal semiconductor markets, today announced at the PCI-SIG® Developers Conference in Santa Clara, a line of signal switches, clock generators and clock buffers for PCI Express® (PCIe®) 4.0 technology applications.

Addressing the expanding market for signal routing with different protocols in PCs, servers, embedded applications including artificial intelligence and fast data transfer generally, the PI3DBS16212 and PI3DBS16412 are 1-20Gbps 2-channel and 4-channel 2:1 differential multiplexers/demultiplexers with extremely low loss, reflection, crosstalk and skew. Offering greater flexibility of channels and routing, typical applications include switching high-speed serial signals employing the latest protocols, including: 20Gbps Thunderbolt™ 3; 16Gbps PCIe 4.0 architecture; 10Gbps USB3.1 Gen2; 12Gbps Serial Attached SCSI 3 (SAS3); 8.1Gbps Display Port 4 (DP4); 12Gbps HDMI2.1, and 10Gbps Ethernet standards.

For the emerging PCIe 4.0 applications, PI3DBS16212 and PI3DBS16412 offer excellent signal integrity with an insertion loss of just -1.3dB at 16Gbps. In this application, minimal skew between channels eases the timing budget between nodes, and power dissipation is very low at typically 300µA. The parts are fabricated with silicon on insulator (SOI) technology and have a very small profile package at 2mm x 2mm for the 2:1 multiplexer.

Also driven by the adoption of the new PCIe 4.0 standard, the PI6CG18201, PI6CG18401, PI6CG18801, PI6CG15401 clock generators provide 1.8V 2/4/8 HCSL outputs and 1.5V 4 HCSL outputs, respectively, and use Diodes Incorporated's proprietary phase-locked loop design to achieve the required tight jitter performance of less than 0.5ps. The parts also provide the reference clock for SERDES chipsets supporting the PCIe 4.0 interface. Each output has its own enable with programmable slew rate and amplitude. On-chip termination resistors are incorporated saving up to 32 external resistors for the 8-channel version for space-constrained applications with the parts consuming approximately 85% less power than traditional PCIe clocks. A spread-spectrum option is also available to reduce EMI in sensitive applications.

PI6CB18200, PI6CB18401, PI6CB18601, and PI6CB18801 are PCIe 4.0 2/4/8 HCSL output clock buffers fanned-out from a reference input. Like the clock generators, the slew rate and amplitude of each output is programmable and there are individual

output enables for better power management. Additive jitter for the clock buffers is less than 0.05ps.

"As a PCI-SIG member for more than a decade, Diodes Incorporated has been involved in offering semiconductor solutions for the PCI Express market," said Al Yanes, PCI-SIG President and Chairman. "Its support of the PCIe 4.0 architecture helps expand the PCI Express ecosystem."

"Diodes Incorporated is proud to enhance our high speed serial connectivity offerings with our high performance signal muxes, clock generators and clock buffers for PCI Express 4.0 applications at 16Gbps and Thunderbolt 3 applications at 20Gbps," said Kay Annamalai, Senior Marketing Director, Diodes Incorporated. "The signal muxes offer the lowest insertion loss, low power consumption and small profile package, and our wide selection of PCI Express 4.0 architecture clock generators and clock buffers meet stringent jitter requirements whilst achieving lowest power, BOM cost and board space thus enabling computer, server, storage, networking, automotive and embedded applications."

Prices for the PI3DBS16212, PI3DBS16412 signal switches range from \$0.68 to \$1.32 and the PI6CG18201, PI6CG18401, PI6CG18801, PI6CG15401 PCIe 4.0 clock generators and PI6CB18200, PI6CB18401, PI6CB18601, and PI6CB18801 PCIe 4.0 clock buffers range from \$1.45 to \$2.24 each for 5K volumes.

Visitors to the PCI-SIG Developers Conference can find Diodes on booth 8 at the Santa Clara Convention Center, June 5-6, 2018 in Santa Clara, California.

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

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## **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 facility is located in Manchester, with an additional facility located in 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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