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Alpha and Omega Semiconductor Announces Type-C Power Delivery High Voltage Source Switch

*Smart protection switch provides industry-leading performance, up to 28V absolute maximum voltage
and True Reverse Current Blocking for Type-C PD port applications*

SUNNYVALE, Calif., Feb. 2, 2021, [Alpha and Omega Semiconductor Limited](#) (AOS) (Nasdaq: AOSL), a designer, developer, and global supplier of a broad range of power semiconductors, power ICs, and digital power products, announced today a new Type-C Power Delivery (PD) high voltage source protection switch capable up to 28V absolute maximum voltage. The [AOZ1374](#) is a smart protection switch in a small thermally enhanced 3mm x 3mm DFN package. AOS's prowess in high-performance ICs combined with AOS's state of the art high SOA MOSFETs using advanced co-packaging techniques. AOZ1374 supports a slew of protection features, including true reverse blocking in a small solution footprint with an industry-leading on-resistance of 36mOhm.

While USB ports in consumer and computing equipment can receive up to 100W of power, power typically comes from an AC-DC adaptor supporting Type-C PD. The host device itself typically provides (sources) 5V @ 3A or up to 15W. This is the most common implementation in notebook applications and also in the majority of desktops. However, Type-C PD ports are gaining popularity in more devices such as smart monitors and power banks, and for such applications, a high voltage sourcing switch is required to deliver up to 100W power. Type C high voltage sourcing switches are also increasingly common in graphics cards or game consoles to power high-end virtual reality gaming goggles. Similarly, a personal computer can connect to a monitor using one single Type-C cable providing both power and data.

AOZ1374 uses a design IP developed for the AOZ1375DI high voltage bi-directional source/sink Type C protection switch with added integration features to eliminate the eternal current limiting resistor. The new device features 28V absolute maximum voltage with the current limit capability, and startup safe operating area (SOA) management would be the ideal protection switch for the applications mentioned above.

“The thinner profile, higher power, and greater flexibility offered by USB Type-C and USB PD 3.0 standards have prompted many to simplify the connectivity between devices down to a single wire for both power and data. AOZ1374 high voltage capability provides the most compact and simple protection device for charging or powering high-power external devices,” said Peter Cheng, Power IC Senior Marketing Director at AOS.

Technical Highlights

- Operating Range: 3.4V to 23V
- 28V Absolute Maximum rating
- On-Resistance: 36mΩ for back-to-back MOSFETs

- Protection features: True Reverse Current Blocking, Under-Voltage Lock-Out, Over-Voltage Protection, Thermal Shutdown Protection, Programmable Soft-Start, Programmable Over-Current Protection, Startup SOA Management
- [AOZ1374DI-01](#) (Auto-restart) and [AOZ1374DI-02](#) (Latch-off) after fault release
- Package: 3mm x 3mm DFN-10L

Pricing and Availability

The AOZ1374 is immediately available in production quantities with a lead-time of 12 weeks. The unit price of 1,000 pieces is \$0.61.

About AOS

Alpha and Omega Semiconductor Limited, or [AOS](#), is a designer, developer, and global supplier of a broad range of power semiconductors, including a wide portfolio of [Power MOSFET](#), [IGBT](#), [IPM](#), [Power IC](#), and Digital Power products. AOS has developed extensive intellectual property and technical knowledge that encompasses the latest advancements in the power semiconductor industry, which enables us to introduce innovative products to address the increasingly complex power requirements of advanced electronics. AOS differentiates itself by integrating its Discrete and IC semiconductor process technology, product design, and advanced packaging know-how to develop high-performance power management solutions. AOS's portfolio of products targets high-volume applications, including portable computers, flat-panel TVs, LED lighting, smartphones, battery packs, consumer and industrial motor controls, automotive electronics, and power supplies for TVs, computers, servers, and telecommunications equipment. For more information, please visit www.aosmd.com.

Forward-Looking Statements

This press release contains forward-looking statements that are based on current expectations, estimates, forecasts, and projections of future performance based on management's judgment, beliefs, current trends, and anticipated product performance. These forward-looking statements include, without limitation, references to the efficiency and capability of new products and the potential to expand into new markets. Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements. These factors include, but are not limited to, the actual product performance in volume production, the quality and reliability of the product, our ability to achieve design wins, the general business and economic conditions, the state of the semiconductor industry, and other risks as described in the Company's annual report and other filings with the U.S. Securities and Exchange Commission. Although the Company believes that the expectations reflected in the forward-looking statements are reasonable, it cannot guarantee future results, level of activity, performance, or achievements. You should not place undue reliance on these forward-looking statements. All information provided in this press release is as of today's date unless otherwise stated, and AOS undertakes no duty to update such information, except as required under applicable law.

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