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Alpha and Omega Semiconductor Introduces a Powerful New Duo of Protection Switches for Type C EPR 3.1

The AOZ13937DI Type C sink and AOZ15333DI Type C source protection switches enable efficient and safe Type C EPR 3.1 Designs up to 140W

SUNNYVALE, Calif., March 14, 2023, [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, today introduced a powerful duo of sink and source switches that can increase the power delivery capability of USB Type-C ports to 140W, paving the way for Type C extended power range (EPR) implementations. The [AOZ13937DI](#) is suited for 28V Type C sinking applications while the [AOZ15333DI](#) is capable of Type C sourcing applications. These new switches are suited for 28V Type C EPR implementations in high-performance laptops, personal computers, monitors, docking, and other applications. Both the AOZ13937DI and AOZ15333DI sink and source switches are being introduced in conjunction with AOS' participation in the upcoming APEC 2023 Conference being held March 19 – 23 in Orlando, Florida.

The AOZ13937DI features an ultra-low 20mOhm resistance with soft-start, overvoltage, ideal diode reverse-current, short-circuit, over-current, over-temperature, and ESD and is designed to isolate and protect downstream components from abnormal VBUS voltage and current conditions. The ideal diode fast reverse current protection allows multiple power paths to be connected in parallel without interference.

The AOZ15333DI companion source switch IC is capable of sourcing 5V @ 3A while blocking up to 28V. AOZ15333DI is UL 2367 and IEC 62368-1:2018 (3rd Edition) certified as a current limiting switch suited for Type C sourcing applications. The device is protected against numerous fault conditions such as VIN Overvoltage Protection (OVP), Startup Short circuit protection (SCP), Over-temperature (OTP) protection and has a programmable ILIMIT pin.

“The AOZ13937DI and AOZ15333DI are a powerful duo of protection switches to allow simple, efficient, and safe implementations of USB Type-C PD3.1 Extended Power Range (EPR) up to 140W,” said Ralph Monteiro, VP, Power ICs at AOS. “With the ability to withstand up to +39V on VBUS, the new sink and source switches deliver the safety margin required by our customers to build 28V systems. At the same time, AOS' high SOA, low RDS(on) trench MOSFETs enable an industry-leading low-resistance 20mΩ back-back MOSFET, reducing the power dissipation in the system and enabling good thermal design.”

Technical Highlights

28V Type C EPR SOURCE: AOZ15333DI

- 3.3V to 5.5V Operating range, Absolute maximum at VOUT = 39V
- 3.5A current capability
- 45mOhm On resistance in DFN3x3-12L
- True reverse current blocking (TRCB)
- Supports Fast Role Swap (FRS)
- VIN Overvoltage Protection (OVP), Startup Short circuit protection (SCP), Over-temperature (OTP) protection
- Programmable ILIM

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28V Type C EPR SINK: AOZ13937DI

- 3.3V to 32V Operating range, Absolute Maximum = 39V
- RON = 20mOhm
- 7A continuous current capability, 18A peak for 10ms @ 2% duty cycle
- Ideal Diode True reverse current blocking
- Programable soft start
- VIN Overvoltage Protection (OVP), Startup Short circuit protection (SCP), Over-temperature (OTP) protection
- DFN3x3-12L Package

Pricing and Availability

The AOZ15333DI and AOZ13937DI are available in production quantities with a lead-time of 16 weeks. The unit price in 1,000-piece quantities is \$0.84 USD for the AOZ15333DI and \$1.10 USD for the AOZ13937DI. AOS products are offered in packages with Pb-free plating and are RoHS compliant.

About AOS

Alpha and Omega Semiconductor Limited, or [AOS](http://www.aosmd.com), is a designer, developer, and global supplier of a broad range of power semiconductors, including a wide portfolio of [Power MOSFET](#), [IGBT](#), [IPM](#), [TVS](#), [Gate Driver](#), [SiC](#), [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. This enables us to introduce innovative products to address advanced electronics' increasingly complex power requirements. 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 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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