

FOR IMMEDIATE RELEASE

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Alpha and Omega Semiconductor Releases 600V Low Ohmic and Fast Body Diode α MOS5™ Super Junction MOSFETs Family

Optimized for Hyperscale Datacenter Power, 5G Rectifiers, EV Charging, and PV Inverters

SUNNYVALE, Calif., Dec. 2, 2021 – [Alpha and Omega Semiconductor Limited](#) (AOS) (Nasdaq: AOSL), a designer, developer, and global supplier of a broad range of power semiconductors and power ICs, and digital power products, today announced the release of 600V Low Ohmic and Fast Body Diode α MOS5™ Super Junction MOSFETs Family. α MOS5 is AOS's latest generation of high voltage MOSFET, designed to meet the high efficiency and high-density needs for Quick Charger, Adapter, PC Power, Server, Industrial Power, Telecom, and Hyperscale Datacenter applications.

The first product released – [AOK040A60](#) is a 600V 40mOhm α MOS5 low ohmic device with the industry-standard TO-247 package tailored to address the thermal challenges of today's high-power AC/DC, DC/DC, and Inverter stages. As the EU ERP Lot9 regulation pushes the efficiency of single PSUs to Titanium level, AOS α MOS5 600V low ohmic family provides an ideal solution for single, interleaved, dual boost, totem-pole, and Vienna PFCs, as well as other hard-switching topologies. The 40mOhm product, followed by our upcoming 31mOhm, 65mOhm, and 80mOhm products, will provide customers with multiple choices to deal with different power ratings and efficiency requirements. The optimized capacitance of AOK040A60 will provide customers the best hard and soft switching performances, with fast turn-on/turn-off behaviors while avoiding the risks of self-turn-on or shoot-through, thanks to AOS's silicon design and process know-how.

The second product released – [AOK042A60FD](#) is a 600V 42mOhm FRD (Fast Body Diode) device, designed to handle the repetitive hard commutation scenario, where the MOSFET's freewheeling body diode is reversely recovered in HB (half-bridge) or FB (full bridge) topologies. The α MOS5 600V FRD solution will further increase the system reliability as the right-fit solution for HB/FB topologies where hard switching happens during abnormal operations, such as short-circuit or start-up transients. The low Qrr of AOK042A60FD will help significantly reduce the losses during reverse recovery.

Besides Server and Telecom power supplies, the AOK040A60, AOK042A60FD and their derivatives will also target the demanding EV DC charging and Solar Inverter applications.

The 600V α MOS5 family will have a portfolio expansion including more low ohmic and FRD products coming Q1'2022. As with most of our α MOS5 products, these new devices will also be fabricated in 300mm facilities, providing better supply elasticity during the global power semiconductor shortage.

“AOS's commitment to high power SMPS applications is getting stronger. α MOS5 600V low ohmic and FRD solutions will make it possible for Server Power and Solar inverter designs to achieve higher power ratings while keeping the same form factors. Our devices' superior efficiency will reduce customers' TCO (total cost of ownership) by minimizing electricity, cooling and ventilation bills. Additionally, today's EV charging stations have reached more than 50kW per module. As power density becomes an increasingly critical differentiation factor, lower ohmic devices provide better conduction loss, thus lower thermal stress to the system. With the release of our 600V low ohmic and FRD family, we will offer the industry's best granularity of Rdsns and packages, covering a wide range of power ratings and densities.

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AOS's market-proven α MOS5 600V low ohmic and FRD products are our answers for tomorrow's server, telecom, solar, and EV charging applications, satisfying our customers' growing demand for performance and reliability," said Richard Zhang, Director of High Voltage MOSFET Product Line at AOS.

Technical Highlights

- Low Ohmic devices with ultra-low switching losses
- Robust UIS under different inductive loads
- Rugged Body Diode and FRD options (Low Qrr) available for more demanding use cases
- Optimized for High Power SMPS, Solar Inverter, and EV Charging applications

Pricing and Availability

The AOK040A60 (600V 40mOhm TO-247) and AOK042A60FD (600V 42mOhm TO-247) are immediately available in production quantities with a lead-time of 24 weeks. The unit price in 1000-piece quantities is \$9.54 for AOK040A60 and \$10.47 for AOK042A60FD.

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](#), [HVIC](#), [GaN/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, 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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