

## FOR IMMEDIATE RELEASE

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# Alpha and Omega Semiconductor Releases 600V 50mohm $\alpha$ MOS7™ Super Junction MOSFETs Family

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

**SUNNYVALE, Calif., May 2, 2023** – [Alpha and Omega Semiconductor Limited](https://www.aosmd.com) (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  $\alpha$ MOS7™ Super Junction MOSFETs Family.  $\alpha$ MOS7™ is AOS' next generation high voltage MOSFET, designed to meet the high efficiency and high-density needs of servers, workstations, telecom rectifiers, solar Inverters, EV charging, motor drives and industrial power applications.

Today's Server power supply requires Titanium efficiency, which translates to more than 98.5% peak efficiency on both PFC and LLC stages. Active-Bridges and Bridgeless designs are easy-to-implement solutions; however, switching and driving losses, especially at light load, are still the main problems designers face. Existing technologies limited by large cell pitches and charges could hardly meet such requirements.

Next-gen SJ technologies with reduced charge but also enough robustness is in demand. Low Qrr and Trr for LLC and PSFB applications are also a must during transient and abnormal situations. AOS  $\alpha$ MOS7™ High Voltage SJ MOSFET is the best answer for above needs.

For Solar applications, low ohmic SMD devices are becoming the new standards, aiming for reduced form factors through utilizing 3D mechanical and thermal designs.  $\alpha$ MOS7™ provides a wide Rdson granularity and SMD package choices, such as DFN, TOLL, and Top-cooling variants.

For low Fsw applications such as Solid-State Relays or Active Bridges, FETs must meet specific SOA requirements to sustain surge and in-rush currents.  $\alpha$ MOS7™ ensures low Rdson's temperature coefficient and ruggedness for transient voltage and current overstresses.

The first product released – [AOK050V60A7](https://www.aosmd.com) is a 600V 50mOhm  $\alpha$ MOS7 low ohmic device with the industry-standard TO-247 package tailored for today's high-power AC/DC, DC/DC, and Solar Inverter stages. As the EU ERP Lot9 regulation pushes the efficiency of single PSUs to Titanium level, AOS  $\alpha$ MOS7™ 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 optimized capacitance of AOK050V60A7 will provide customers excellent switching performances, with fast turn-on/turn-off behaviors, while avoiding the risks of self-turn-on or shoot-through. The 50mohm device will be followed by our upcoming 32mohm, 40mohm, 65mohm, and 105mohm devices.

"The new charge balance structure makes it possible to further reduce the active area up to 50%, compared to  $\alpha$ MOS5™, our existing solution. In general,  $\alpha$ MOS7™ is an industry-leading high voltage SJ solution designed to address both efficiency-driven and cost-driven markets," said Richard Zhang, Senior Director of Product Line and Global Power Supply businesses at AOS.

## Technical Highlights

- Low Ohmic device with ultra-low switching losses
- Rugged Body Diode and FRD options (Reduced Qrr) available for more demanding use cases
- Rugged SOA and in-rush current capability for Solid-State Relay and Active Bridge applications
- Optimized for both High Power and Low Power SMPSes, Solar Inverters, and EV DC Charging applications.

## Pricing and Availability

The [AOK050V60A7](#) (600V 50mOhm TO-247) is immediately available in production quantities with a lead time of 26 weeks. The unit price starts at US\$9.27 in 1,000-unit quantities.

## 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](#), [TVS](#), [Gate Drivers](#), [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' 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](http://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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