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## Alpha and Omega Semiconductor Unveils High-Performance Smart Power Stage (SPS) Family

*AOZ527xQI Series' Provide High Efficiency, Multiphase Controller Agnostic Solution for High-Performance GPUs, Server, 5G, and AI*

SUNNYVALE, Calif., May 18, 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, today announced a new series of Smart Power Stages (SPS) targeting multiphase VR regulators powering high-performance GPU and CPU in desktop Add-In Graphics Cards (AICs), gaming laptops, servers, data storage, artificial intelligence, and networking equipment.

The AOZ527xQI series uses AOS's latest generation of a flexible smart driver IC and Gen Alpha MOSFET technology to provide benchmark performance in an industry-standard 5mm x 6mm QFN package. The series comprises three DC current levels for multiphase voltage regulator optimization.

An SPS provides current monitoring (IMON) and temperature monitoring (TMON) information. The IMON function is used to replace traditional DCR sensing schemes with improved accuracy and eliminates the external components needed for DCR sensing and tuning. The TMON pin doubles as a fault pin, reporting the power stage temperature by outputting an analog voltage of 8mV/°C. The TMON pin is an open-drain output that pulls high in the event of a fault.

The AOZ527xQI uses a highly flexible and configurable driver IC to make this SPS compatible with many multiphase controllers in the market. It includes protection features such as Over-Current Protection (OCP), Over-Temperature Protection (OTP), High-Side FET Source Detect (HSD), and Pre-Over-Voltage Protection (Pre-OVP). While AOS follows the industry standard 5 x 6 common footprint for a smart power stage, AOS's SPS also features a unique dynamic control of OCP threshold settings and Zero-Cross Detect (ZCD) light load operation. AOS SPS series offers both performance and robustness to support high peak currents common in servers, high-performance GPU and AI applications. This performance is guaranteed, and all devices in this family feature high peak current capability, up to 150A for 10us and 100A for 10ms.

“The Smart Power Stage in the QFN 5 x 6 footprint has been an industry standard for a while. AOS's approach of offering a family of devices for various performance levels and end applications makes our offering unique. For example, our [AOZ5279QI](#) can be used for gaming laptop applications being powered by a 20V adaptor, while, our [AOZ5277QI](#), [AOZ5273QI](#), and [AOZ5276QI](#) offer multiple options in multiphase regulators used in add-in cards, servers, 5G and artificial intelligence,” said Peter Cheng, Sr. Director, Power IC Marketing at AOS.

## Technical Highlights

The AOZ527xQI family of SPS supports both server, AI and GPU add-in card (12V input) as well as gaming laptop (20V input) input voltage operating range. Three performance levels (60A, 70A, and 90A) allow tradeoffs in the current/phase and number of phases.

- DC Operating Range: 3V to 20V for AOZ5273/6/7QI
- DC Operating Range: 3V to 25V for AOZ5279QI
- Universal standard QFN5x6 package
- Capable of up to 150A for 10us
- Capable of up to 100A for 10ms
- Full waveform Current Monitor (IMON) with better than 5% accuracy
- Temperature Monitor (TMON) with open-drain Fault reporting
- Dynamic control of OCP threshold and ZCD control

Part Number	DC Current Rating	Abs Max VIN Voltage
<a href="#">AOZ5273QI</a>	70A	25V
AOZ5276QI	90A	25V
<a href="#">AOZ5277QI</a>	60A	25V
<a href="#">AOZ5279QI</a>	60A	30V

## Pricing and Availability

The AOZ527xQI series is immediately available in production quantities with a lead-time of 12 weeks. The unit price in 1,000 pieces quantities is \$1.75 for AOZ5277QI, \$1.84 for AOZ5279QI, \$2.43 for AOZ5273QI, and \$2.83 for AOZ5276QI.

## 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](#), [HVIC](#), [SiC/GaN](#), [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](http://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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