

**FOR IMMEDIATE RELEASE**

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## Alpha and Omega Semiconductor Announces New 650V and 750V Automotive Qualified $\alpha$ SiC MOSFETs for Industrial and Electric Vehicle Applications

SUNNYVALE, Calif., Nov. 10, 2022 – [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 its new industry-leading 650V and 750V SiC MOSFET platform for both industrial and automotive applications. The 650V SiC MOSFETs are ideal switching solutions for industrial applications such as solar inverters, motor drives, industrial power supplies, and new energy storage systems, while the AEC-Q101 qualified 750V SiC MOSFET line is targeted for the high-reliability needs in electric vehicle (EV) systems such as the on-board charger (OBC) and the main traction inverter.

The new AOM015V75X2Q 750V  $\alpha$ SiC MOSFET expands on the existing second-generation 1200V  $\alpha$ SiC MOSFET and diode products with an industry-leading low  $R_{DS(ON)}$  down to 15m $\Omega$  in a standard TO-247-4L package while maintaining a recommended +15V gate drive voltage to ensure the broadest compatibility with existing gate driver solutions. Due to the minimized internal gate resistance and optimized cell design, AOS designed these devices to exhibit ultra-fast switching speeds that are fully controllable with an external gate resistor. This benefit is also noticeable in standard switching figures-of-merit (FoM) such as  $R_{ON} \times Q_{GD}$  and  $R_{ON} \times Q_{RR}$  that are improved compared to existing 750V SiC MOSFET solutions.

Highlighting the advantages of these new  $\alpha$ SiC MOSFETs is the breakthrough performance increase in short circuit withstand time (SCWT) for planar SiC MOSFETs. For many applications, and especially in EV inverters, a longer SCWT can greatly improve the system's ruggedness and give developers more flexibility in design. In order to achieve an increase in SCWT, it is typically necessary to also significantly increase the die size of the product, which can impact overall system costs. In AOS tests, these new 750V MOSFETs have maintained a similar or lower  $R_{ON} \times A$  while demonstrating a greater than 40% increase in SCWT when compared to similarly-sized competitive products.

“We are very excited to follow up on our successful 1200V  $\alpha$ SiC MOSFETs with these automotive-grade 650V and 750V products. Our industrial, renewable energy, and xEV customers will now have a complete portfolio available to select the right solution that supports their wide range of product power levels at an even higher performance and efficiency level,” said David Sheridan, Vice President of SiC products at AOS.

### Technical Highlights:

- 650V  $\alpha$ SiC MOSFETs are qualified for industrial use
- 750V  $\alpha$ SiC MOSFETs are AEC-Q101 Qualified for xEV applications and PPAP capable
- $R_{DS,ON}$  available down to 15m $\Omega$
- Low  $Q_{rr}$  and robust body diode
- Maximum operating junction temperature to 175°C

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Along with today's announced 650V and 750V SiC MOSFETs, AOS is exhibiting its broad portfolio of advanced semiconductor solutions at the electronica conference, November 15-18, Booth C4-102 at the Trade Fair Messe.

### **Pricing and Availability**

The initial 750V automotive series  $\alpha$ SiC MOSFET products (AOM015V75X2Q, AOM060V75X2Q), and industrial 650V series (AOM015V65X2, AOM060V65X2) will be available for orders in Q4/2022. Please contact your local sales representative for pricing.

### **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](#), [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](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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