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Alpha and Omega Semiconductor Announces First eFuse Product Suitable for Server Applications

5A eFuse provides industry-leading performance with low 20mΩ on-resistance for server applications

SUNNYVALE, Calif., Feb. 1, 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 the release of our initial eFuse product for sub-power rails in server applications. The [AOZ18101DI](#) series are 5A eFuse in a compact 3mm x 3mm DFN package. The new products use AOS's advanced co-packaging technology, combining a high-performance IC with protection features and our latest high SOA Trench MOSFET. The new devices offer low $R_{DS(ON)}$ (20mohm) back-to-back MOSFETs to isolate the load from the input bus when the eFuse is off.

Due to high-reliability requirements for server products, all critical power rails are monitored and protected by an eFuse device to protect the main power bus from interruption due to abnormal load under fault conditions. The eFuse continuously monitors the current flowing through the power switch. If the current is higher than the set limit, the switch will limit the current to the maximum allowed. If the high current load persists, the switch will eventually turn off, protecting downstream loads from damage, thus acting as a fuse.

[AOZ18101DI-01](#) and [AOZ18101DI-02](#) integrated True Reverse Current Blocking (TRCB) for the fault conditions that the power rail at VOUT is higher than the main bus at VIN, allowing no reverse current. Control for external blocking FET is also available for designs already in production by offering a drop-in replacement to existing eFuse products requiring external FETs to implement the TRCB feature. For loads with high inductive kickback such as hard disc drive, and server fans, the [AOZ18101DI-03](#) and [AOZ18101DI-04](#) has this TRCB feature disabled to avoid shut down of the input power bus due to a reverse current. All devices feature startup SOA management and other protections allowing for glitch-free power-up of the system or hot plug into the 12V backplane.

“High-reliability systems such as servers and storage require input bus protection. Traditional designs use a hot-swap controller and an external discrete FET. Still, this solution is increasingly dropped in favor of a more compact solution offered by an eFuse. AOS's ability to combine TrenchFET technology with leading IC design enables compact, robust eFuse products,” said Peter Cheng, Power IC Senior Marketing Director at AOS.

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Technical Highlights

- Operating Range: 3.5V to 14V
- 22V Absolute Maximum rating
- On-Resistance: 20mΩ back-to-back MOSFETs
- Protection Features: Programmable Over-Current Protection, True Reverse Current Blocking (AOZ18101DI-01 and AOZ18101DI-02), Under-Voltage Lock-Out, Over-Voltage Clamp, Thermal Shutdown Protection, Programmable Soft-Start, Startup SOA Management
- Package: 3mm x 3mm DFN-10L

Part Number	Reverse Current Blocking	Fault Recovery
AOZ18101DI-01	Built-In	Auto-Restart
AOZ18101DI-02	Built-In	Latch-Off
AOZ18101DI-03*	Inactive	Auto-Restart
AOZ18101DI-04	Inactive	Latch-Off

*Available Q1'22

Pricing and Availability

The AOZ18101DI series are immediately available in production quantities with a lead-time of 14 weeks. The unit price for AOZ18101DI-01, AOZ18101DI-02, AOZ18101DI-03, and AOZ18101DI-04 starts at \$0.72 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](#), [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.

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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