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Alpha and Omega Semiconductor Announces AlphaZBL™ AC-DC Active Bridge Rectifier Solutions

AOZ7200 and AOZ7270 Enable Efficiency and Thermal Enhancement in High Power Adaptors and Titanium Level Efficiency in AC-DC Power Supplies

SUNNYVALE, Calif., March 23, 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 family of active AC-DC bridge rectifiers. Aptly trademarked AlphaZBL™ for "zero bridge loss," this new family of products virtually eliminates the bridge rectifier losses in AC-DC power supplies and adaptors. Typical end applications include high power 100W and above adaptors used for high-end laptops and televisions as well as power supplies for Desktops, Game consoles, Servers, and Telecom.

The first two members of the family include a controller, AOZ7200, in a SOT-23 package and an integrated product AOZ7270, which integrates a 600V, 190mOhm MOSFET in a DFN 5x7 package. The AOZ7200 offers maximum flexibility to trade off performance and cost by pairing it with AOS's benchmark super junction family of MOSFETs. The AOZ7270 takes advantage of AOS's capabilities in novel IC design, benchmark MOSFET technology, and innovative packaging to reduce component count and design time. Both products are self-powered from the AC line and do not require external circuitry. The proprietary self-biasing scheme sips minimal power from the AC line making it very efficient in light load or standby mode of operation. In a typical 100W application, the AOZ7270DI delivers efficiency improvements of 0.89% at 115VAC and 0.44% at 230VAC over a diode bridge. Both products exceed lightning surge requirements that are a critical requirement in AC-DC applications.

"Today's data centers strive for improved efficiency and thermals as cooling of the data center takes as much if not more power than the servers themselves. AOS's AlphaZBL products make the design of Titanium grade efficiency power supplies far easier to achieve," said Colin Huang, Power IC Marketing Manager at Alpha and Omega Semiconductor. "High power adaptors face thermal challenges in the face of ever-increasing power density. Active bridge rectification enabled by AOZ7200 and AOZ7270 offer the simplest path to reducing power losses," he adds.

Technical Highlights

- Synchronous rectifier replacement for lossy high voltage bridge rectifier
- Self-powered Vcc in AC system with ultra-low quiescent current
- Integrated 190mOhm, 600V N-channel MOSFET (AOZ7270DI)
- A low reverse threshold of 1mV for improved efficiency

Part Number	Package	MOSFET BVDSS (V)	R_{DSON} (mΩ)	Vcc (V)	ESD Rating (KV)	Ioperation (uA)	Operating Temp.(°C)
AOZ7200CI	SOT23-5	N/A	N/A	12.9-15.2	2	12	-40 - 125
AOZ7270DI	DFN5x7	600	190	12.9-15.2	2	12	-40 - 125

Pricing and Availability

The AOZ72xx series is immediately available in production quantities with a lead-time of 12 weeks. The unit price for 1,000 pieces is $0.47 for AOZ7200CI, and $1.48 for AOZ7270DI.

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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