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Alpha & Omega Semiconductor Introduces Ultra Low Capacitance ESD Protection Solutions for High Speed Data Ports

New Transient Voltage Suppressor family offers a high level of ESD protection in small form factor packages

SUNNYVALE, Calif., December 10, 2009 – [Alpha & Omega Semiconductor, Inc. \(AOS\)](#) today announced a family of [ultra low capacitance TVS diode](#) products. The new product series are designed and optimized to provide robust [ESD protection](#) for high speed data ports commonly used in consumer and computing electronics products such as LCD TVs, BluRay players, personal computers, and cell phones.

The new product family includes three products – [AOZ8804](#) (4-Channel), [AOZ8802](#) (2-Channel) and [AOZ8831](#) (single bidirectional diode). They all come with very low capacitance and low insertion loss ratings. These features enable maximum overall signal integrity and ESD protection to high speed data interfaces such as HDMI, USB3.0, eSATA and DisplayPort.

“As the data speed of communication interfaces increases, designers are left with a challenge of protecting sensitive electronics in the transceiver circuitry from ESD, while at the same time maintaining signal integrity. Typical TVS solutions add capacitance that can degrade the data signal. AOS’ ultra-low capacitance ESD solutions built on our proprietary [TVS]^{2™} process technology enable robust ESD solutions with 50% lower capacitance rating over our current solutions,” said Wayne Eng, Marketing Director for AOS’ [TVS](#) and [Analog Switch](#) products. “With improved lower capacitance rating, the new products provide ESD protection for some of the most advanced ports in consumer applications without compromising signal integrity,” Eng added.

Technical Highlights

The new products meet the IEC61000-4-2 Level 4 specification for electrostatic discharge ($\pm 8\text{kV}$ contact and $\pm 15\text{kV}$ for air discharge) and are housed in very small optimized footprint packages.

AOZ8804 is a 4-channel ultra low capacitance TVS diode array rated at 0.25pF typ. (I/O to I/O) and 0.50pF typ. (I/O to Gnd), making it ideal for ESD protection for very high speed external interfaces like HDMI ports in LCD TV. For computing devices which use USB2.0 or the new USB3.0, the 2-channel AOZ8802 device is ideally suited for this application.

AOZ8831 is a single bidirectional diode rated at 0.35pF typ. and is available in an ultra small 1.0 x 0.6 x 0.5mm SOD882 leadless DFN package. This device is ideal for RF and GPS antenna protection in portable handheld devices.

Pricing and Availability

The AOZ88xx family is available immediately. The table below shows brief specifications and pricing.

Part Number	IEC 61000-4-2 (ESD)		Protected Lines	Channel Input Capacitance		Package	Unit Price (1K+)
	Contact	Air		I/O - I/O Typ.	I/O - Gnd Typ.		
AOZ8804DI	± 8 kV	± 15 kV	4	0.25 pF	0.50 pF	DFN 2.5 x 1.0	US\$0.35
AOZ8802DI	± 8 kV	± 15 kV	2	0.25 pF	0.50 pF	DFN 1.6 x 1.0	US\$0.30
AOZ8831DI	± 8 kV	± 15 kV	1	---	0.35 pF	DFN 0.6 x 1.0	US\$0.16

About AOS

Alpha & Omega Semiconductor, Inc. is a fabless semiconductor company that develops leading-edge analog power management solutions. AOS offers a wide portfolio of Power MOSFET, Power IC, Analog Switch and Transient Voltage Suppressor products that incorporate advances in device design, silicon, and packaging technologies. AOS' products meet the ever increasing performance and power efficiency requirements in computing and consumer applications such as portable and desktop computers, digital cameras, cell phones, and LCD TVs. AOS has offices worldwide including the United States, China, Hong Kong, Taiwan and South Korea. For more information, please visit www.aosmd.com

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