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News

Samsung Unveils New Power Management Solutions for DDR5 Modules

Samsung's two new enterprise PMICs, S2FPD01 and S2FPD02, can reduce overheating with more than 90% energy-efficiency within the memory module The S2FPC01 offers power-saving benefits to PC DRAM modules in a compact form factor
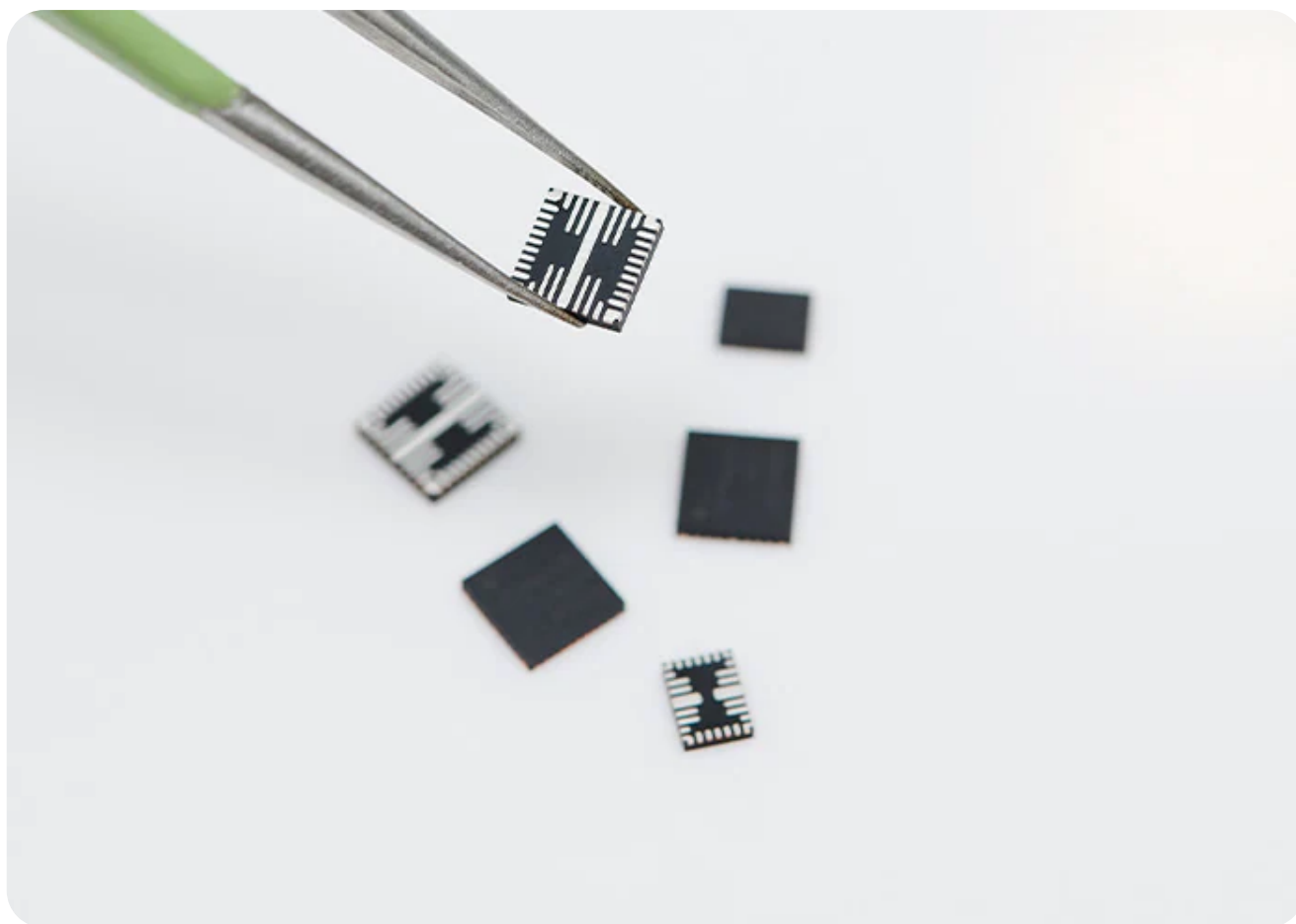
May 18, 2021

Samsung Electronics Co., Ltd., a world leader in advanced semiconductor technology, today announced the industry's first integrated power management ICs (PMICs) — S2FPD01, S2FPD02 and S2FPC01, for the fifth-generation double data rate (DDR5) dual in-line memory module (DIMM).

signal integrity, and providing a more reliable and sustained performance.

For improved performance efficiency and load-transient responses, Samsung's new PMICs for DDR5 modules have been equipped with a high-efficiency hybrid gate driver and a proprietary control design (asynchronous-based dual-phase buck control scheme).

This scheme allows the DC voltage to step down from high to low with a fast transient response to changes in the output load current and adapts the conversion accordingly to efficiently regulate its output voltage at near-constant levels. The control scheme also features both pulse width and pulse frequency modulation methods, preventing delays and malfunctions when switching modes.

"With enhanced power efficiency and low output ripple voltage, the new PMICs S2FPD01, S2FPD02 and S2FPC01 allow data centers, enterprise servers and PC applications to take full advantage of their DDR5 performance for highly demanding, memory-intensive tasks," said Harry Cho, vice president of System LSI marketing at Samsung Electronics.

Two of Samsung's new DDR5 DIMM PMIC solutions, the S2FPD01 and the S2FPD02, offer optimal performance for today's data center and enterprise servers that must run heavy analytics, machine and deep learning, and other various computing tasks in real time. The FPD01 is designed for modules with low density; FPD02 for higher density.

In addition, by implementing a high-efficiency hybrid gate driver instead of a linear regulator, Samsung's new PMICs can operate at up to 91-percent power efficiency.

The S2FPC01, Samsung's other new PMIC, is tailored for use in desktop or laptop PCs. Designed on a 90-nanometer

Samsung's DDR5 DIMM power management ICs, the S2FPD01, S2FPD02 and S2sFPC01, are currently being sampled to customers.

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions. For the latest news, please visit the Samsung Newsroom at http://news.samsung.com

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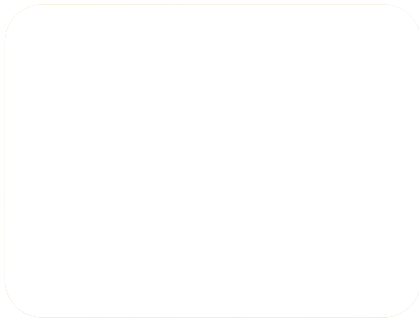**Go to Samsung Semiconductor Newsroom**

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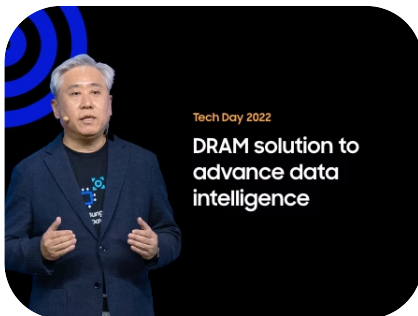## Samsung Electronics Introduces...

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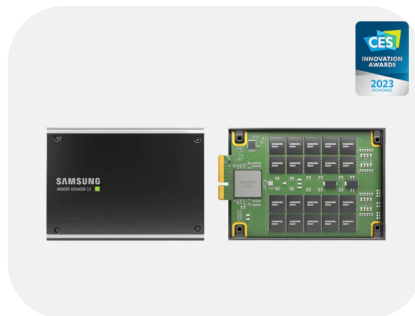# Related Tech Articles
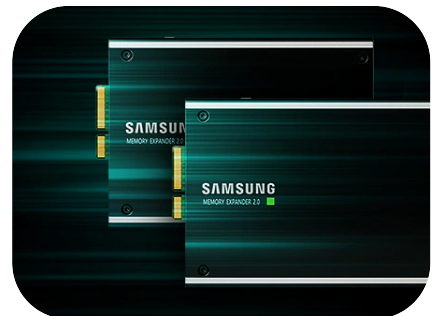
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