

First mass production of system-on-chip with 10-nanometer finFET technology

October 18 2016

Samsung Electronics today announced that it has commenced mass production of System-on-Chip (SoC) products with 10-nanometer (nm) FinFET technology for which would make it first in the industry.

Following the successful [mass production](#) of the industry's first FinFET mobile application processor (AP) in January, 2015, Samsung extends its leadership in delivering leading-edge [process technology](#) to the mass market with the latest offering.

"The industry's first mass production of 10nm FinFET technology demonstrates our leadership in advanced process technology," said Jong Shik Yoon, Executive Vice President, Head of Foundry Business at Samsung Electronics. "We will continue our efforts to innovate scaling technologies and provide differentiated total solutions to our customers."

Samsung's new 10nm FinFET process (10LPE) adopts an advanced 3-D transistor structure with additional enhancements in both process technology and design enablement compared to its 14nm predecessor, allowing up to 30-percent increase in area efficiency with 27-percent higher performance or 40-percent lower power consumption. In order to overcome scaling limitations, cutting edge techniques such as triple-patterning to allow bi-directional routing are also used to retain design and routing flexibility from prior nodes.

Following the introduction of Samsung's first-generation 10nm process (10LPE), its second generation process (10LPP) with performance boost

is targeted for mass production in the second half of 2017. The company plans to continue its leadership with a variety of derivative processes to meet the needs of a wide range of applications.

Through close collaboration with customers and partners, Samsung also aims to cultivate a robust 10nm foundry ecosystem that includes reference flow verification, IPs and libraries.

Production level process design kits (PDK) and IP design kits are currently available for design starts.

SoCs with 10nm process technology will be used in digital devices launching early next year and are expected to become more widely available throughout 2017.

Provided by Samsung

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