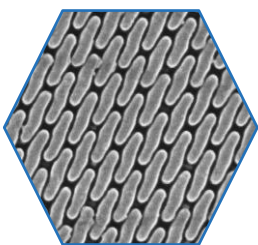
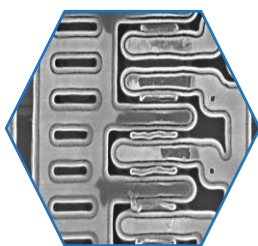
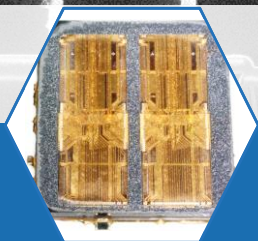


Samsung LPDDR5 12GB Mobile Memory

In-depth physical and cost analysis of Samsung's '1y-nm' low power DRAM



Samsung has maintained its position as the world leader in advanced memory technology. Samsung took a 44% share of the Dynamic Random Access Memory (DRAM) market in 2019. Its low power DRAM is mostly used in smartphones. Low power DRAM continues to advance with each generation to cater for new applications, provide better performance and higher efficiency. The high speed and power saving characteristics of Samsung's LPDDR5 memory makes it attractive for use in mobile devices and autonomous vehicles that need to keep pace with 5G applications and Artificial Intelligence technology innovations. Low power consumption is important in mobile devices to help extend battery life.

This is the world's first commercially available LPDDR5. It uses Samsung's '1y-nm' process technology. Samsung has developed this advanced process technology to pave a way for digital innovations, providing the industry with fast memory.

The new LPDDR5 chips are engineered to maximize power saving by lowering their voltage use in accordance with processor operation. Compared to LPDDR4, the latest low power DRAM has an approximately 1.3 times higher data rate and significant reduced power consumption.

This report constitutes an exhaustive analysis of Samsung's LPDDR5. It covers a full analysis of the DRAM package and the LPDDR5 die. The report includes high resolution images of the die and DRAM cells. The physical analysis and the process are used to estimate the manufacturing cost and price estimate of Samsung's latest low power DRAM dies. Finally, the report determines the component cost, including the die manufacturing cost, packaging cost and test cost. It compares the LPDDR4 and the LPDDR5, including the die size, density and physical features. The comparison focuses on the physical characteristics and the manufacturing process differences.

COMPLETE TEARDOWN WITH

- Detailed photos
- Precise measurements
- Material analysis
- Manufacturing process flow
- Supply-chain evaluation
- Manufacturing cost analysis
- Estimated sales price

Title: Samsung LPDDR5 12GB Mobile Memory

Pages: 90

Date: August 2020

Format: PDF & Excel file

Price: EUR 3,990

Reference: SP20565

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AUTHORS



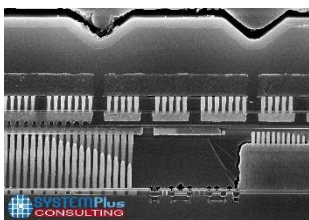
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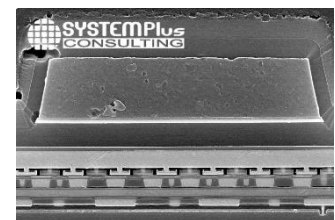
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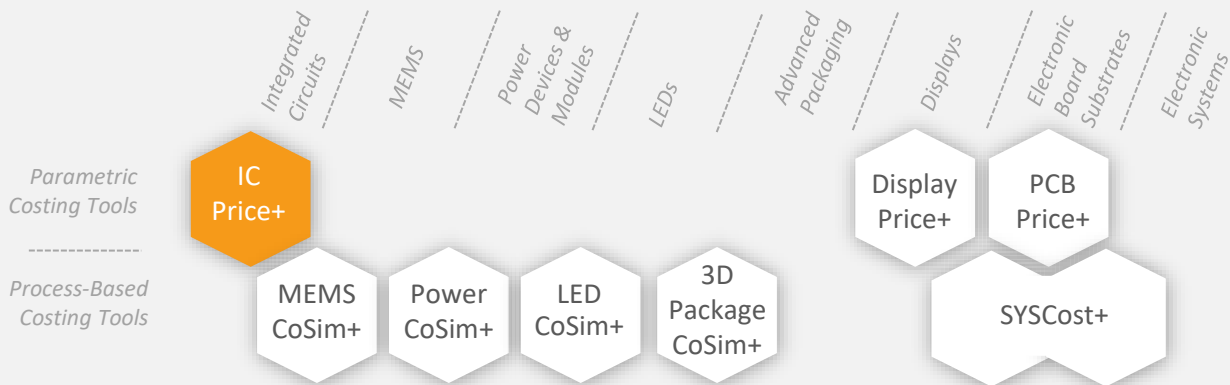


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ABOUT SYSTEM PLUS CONSULTING

WHAT IS A REVERSE COSTING®?

Reverse Costing® is the process of disassembling a device (or a system) in order to identify its technology and calculate its manufacturing cost, using in-house models and tools.



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