

Everspin EMD3D256M STTMRAM Memory

Everspin's Spin Transfer Torque MRAM with perpendicular magnetic tunnel junction

Amongst multiple emerging non-volatile memory (NVM) technologies, spin transfer torque magneto resistive RAM (STT-MRAM) has shown significant potential and market growth driven by low latency storage applications. In 2018 the MRAM market recorded revenue of \$44 million. It is estimated that the compound annual growth rate for the MRAM market will be 85% between 2018 and 2024.

Magneto-electronic memories have been employed in numerous information devices because of their non-volatile characteristics, high speed and low power consumption. Their high endurance characteristics have made STT MRAM a good competitor in the memory industry. It promises to pick up significant market share in the next few years.

Everspin's STT MRAM component has a compact structure integrating numerous layers that include ferromagnetic and antiferromagnetic material, forming a magnetic tunnel junction. Different resistive states created in the MRAM cell allow read and write functions. A dielectric layer is coupled between two magnetic materials. A complex fabrication method is used to deposit and pattern the thin layers that form the STT MRAM cell.

Everspin Technologies leads the STT-MRAM market. Its 256Mb STT MRAM

memory uses a 40 nm lithographic technology node process. The memory is manufactured along with CMOS transistors.

System Plus Consulting presents a deep analysis of Everspin's EMD3256M STT MRAM. The report includes an analysis of the package and the dies, the MRAM cell, focusing on the layered material that makes up the MRAM cell. It also features a cost analysis and price estimation of the component. This cost analysis integrates the manufacture of CMOS transistors and MRAM cells. The manufacturing process steps are detailed, as is the supply chain. The manufacturing cost results are used to determine the cost per Mb for Everspin's STT MRAM.

COMPLETE TEARDOWN WITH

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

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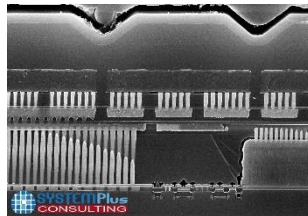
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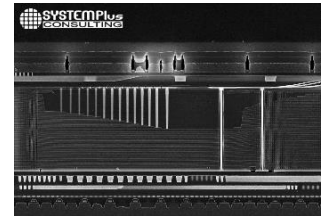
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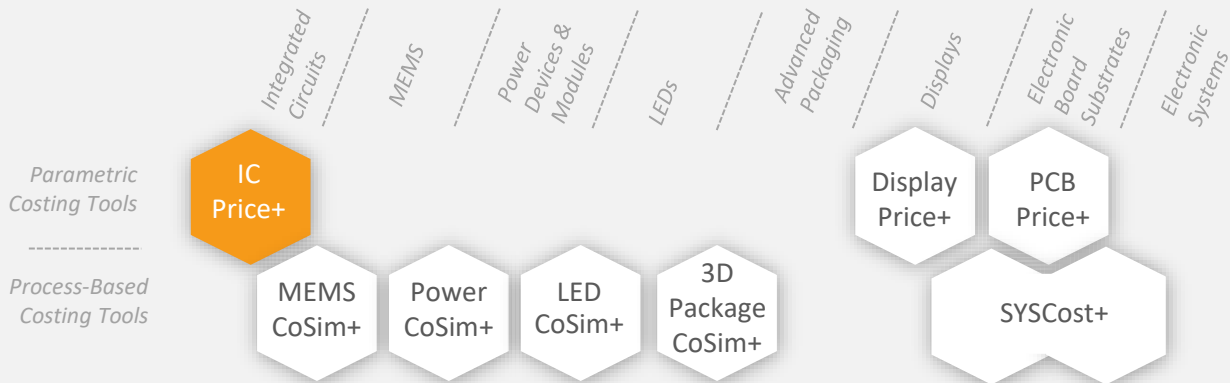
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Our analysis is performed with our costing tool IC Price+.

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IC Price+

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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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