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WE KNOW MEMORY

BLACK WEEKS

IN MEMORY SEMICONDUCTORS

IS A RECOVERY IN SIGHT?

NO.11 NOV24

MEMPHIS MEMORY ESSENTIALS

Everything you need to know about the semiconductor memory industry, from legacy technologies to latest innovations.

Brought to you by MEMPHIS Electronic, your Memory Competence Center and DRAM module configurator.
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„Black Weeks“ in Memory Semiconductor: Is the Recovery Finally Here?

Have you ever wondered why the last Friday in November is called Black Friday? Some theories say it’s because retailers traditionally operated “in the red”, indicating losses, but moved “in the black” thanks to all the sales after Thanksgiving once everyone gets ready for Christmas. Black Friday turned into Black Week(s) with many sales and special offers to spur spending.

However, unless you are in the booming AI memory market, you have experienced Black Months and even Quarters, but for most of these players, they haven’t resulted in black figures.

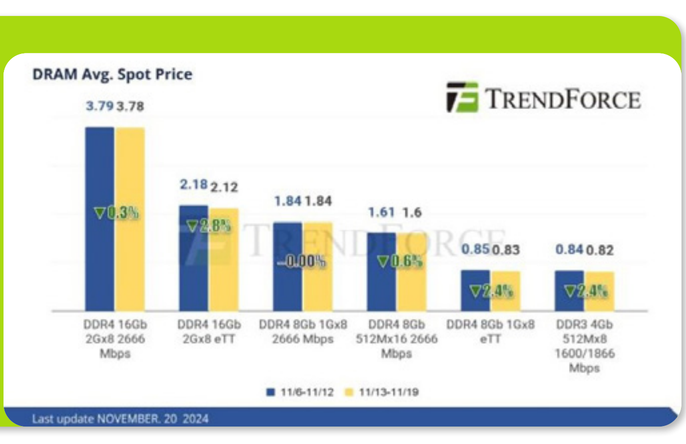
Recent developments are beginning to signal a shift. This month, the electronics industry gathered once again in Munich for electronica, where the prevailing sentiment was cautiously optimistic. Despite the ongoing challenges, the event highlighted a renewed sense of energy and innovation.

According to recent reports, the semiconductor manufacturing market has shown growth for the first time in two years, signaling potential recovery. That said, the rebound in DRAM and NAND prices is expected to be slower than initially forecasted. This provides some relief for equipment manufacturers, who have been depleting their inventory and now require new supplies.

But don’t let the news get to your head. Samsung and Sk hynix have announced plans to reduce their DRAM output, focussing on high-margin products. Likewise, the eMMC market is on the brink of a significant transition, with its end-of-life anticipated by 2025.

So it’s wise to keep an eye on the market. Our experts at MEMPHIS Electronics are here to help you navigate these changes, assess risks, and make informed decisions about the future of your semiconductor memory needs.

We are only a phone call or email away!



DRAM Prices Decline Moderately

According to TrendForce Corporation’s November memory spot price trend report, the price decline for both DDR4 and DDR5 products has begun to moderate. However, this is not due to an improvement in the demand situation but because sellers realize that further price reductions are unlikely to spur procurement activities.

Looking ahead to 1Q25, the strategy of lowering inventory levels is expected to continue. The overall trend of spot prices will remain weak.

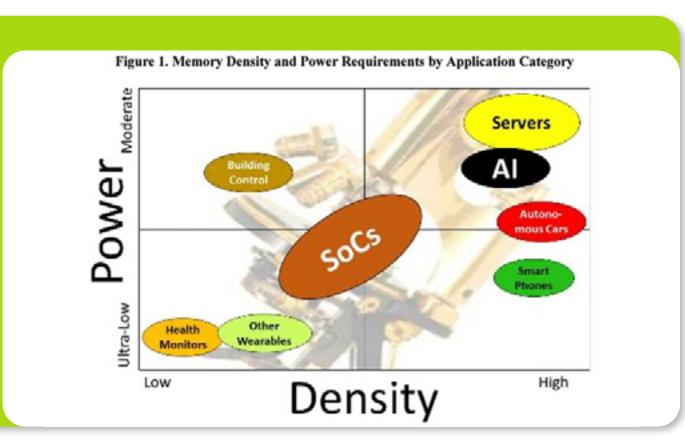
Read more here.

Semiconductor Manufacturing is Growing Again

In Q3 2024, the semiconductor manufacturing market has seen growth for the first time in two years! According to Semi, electronic sales rebounded in Q3 2024, growing 8% QoQ, with a projected QoQ increase of 20% in Q4 2024.

Although the growth is fueled by seasonal factors and strong demand from investments in AI data centers, the consumer, automotive, and industrial segments are experiencing a slower pace of recovery.

Read more here.



Emerging Memory Seek Economies of Scale

Coughlin Associates and Objective Analysis released their 2024 report on emerging non-volatile memories such as MRAM, ReRAM, or FRAM. They predict that emerging memory annual shipping capacity will rise from an estimated 340 terabyte in 2023 to 8.46 exabyte in 2034..

Total emerging memory revenues are expected to increase from $421M in 2023 to about $71.7B by 2034. The bulk of this rapid revenue growth will be supported by emerging memories’ displacement of SRAM, NOR flash, and some DRAM.

Read more here.

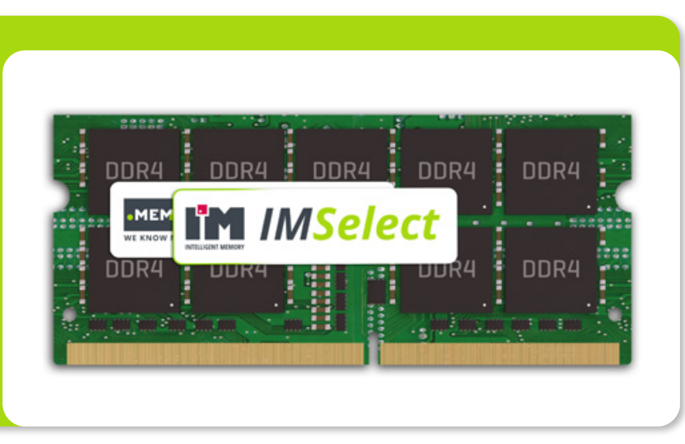
2025 Technology Trends

TrendForce has outlined 10 key trends shaping the technology landscape in 2025.

Robotics remains a central focus, but AI is the dominant trend. AI server shipments are projected to grow by 42% and AI-based notebooks will steadily increase market share in 2025.

However, AI is a double-edged sword calling for more sophisticated security and defense strategies. For this reason, memory manufacturers are developing on-chip security features.

Read more here.

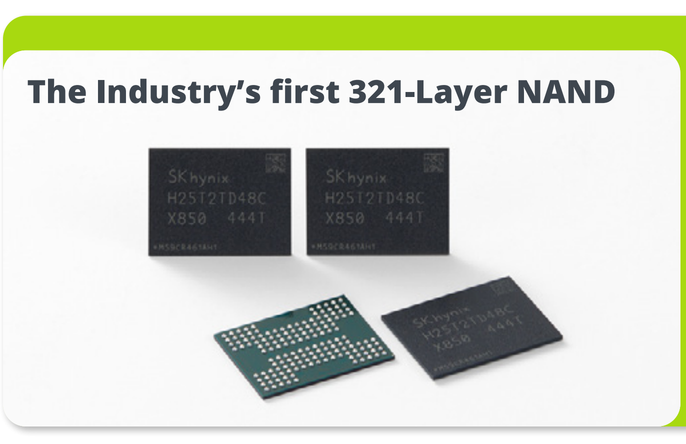


MEMPHIS DRAM Modules Become IM Select

In January 2025, MEMPHIS Electronic will hand over its private-label DRAM modules to Intelligent Memory which will include the module series in its portfolio under the brand IMSelect. MEMPHIS has been configuring memory modules since 1991 and had them manufactured by Intelligent Memory (then still Pacific Force Technology Limited).

Now that both MEMPHIS and IM are both part of the Neumonda Group, MEMPHIS will focus on helping customers find the best-matching memory product for their solution while IM will take over the configuration and production of the memory modules.

Read more here.



The first 300+ layer NAND is coming

Sk hynix has started mass production of the first 321-layer 4D NAND Flash memory. The NAND products will be available in the first half of 2025 and have a capacity of 1Tb. Stacking over 300 layers,

Sk hynix uses a “3 plugs” process that electrically connects three plugs (vertical holes through layers of substrate) after three times of plug processes are finished.

Moving from 238 layers to 321 layers, Sk Hynix also improved productivity, data transfer and reading performance, and reading power efficiency.

Read more here.

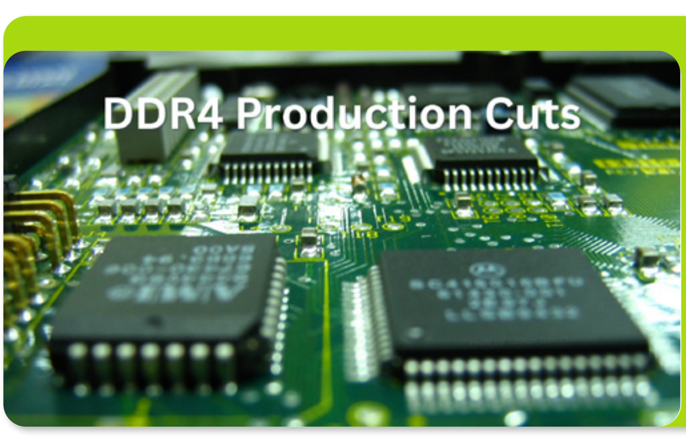
Winbond LPDDR4/x For Automotive

Winbond has introduced LPDDR4/4x DRAM solutions for automotive environments that reduce power consumption, extend battery life, and lower heat generation.

A key differentiator of the new products is their compact 100BGA package, which is 50% smaller than the traditional 200BGA which directly translates to a 50% decrease in packaging-related carbon emissions.

The 100BGA package is fully backward-compatible with the 200BGA Single Die Package simplifying the transition for automotive manufacturers.

Read more here.



DDR4 DRAM Production Cuts

According to insights from TrendForce, SK hynix plans to reduce DDR4 DRAM production to 20% of its total DRAM output by the end of the year, down from 30% in September and 40% in June.

Similarly, Samsung confirmed plans to reduce the production of legacy DRAM and NAND flash chips. Instead, both memory giants will shift their focus to highly profitable premium products like HBM and enterprise SSDs.

Don’t get caught by the looming discontinuations. Speak with us and make sure you and your project are covered.

Reach out to sales@memphis.de

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