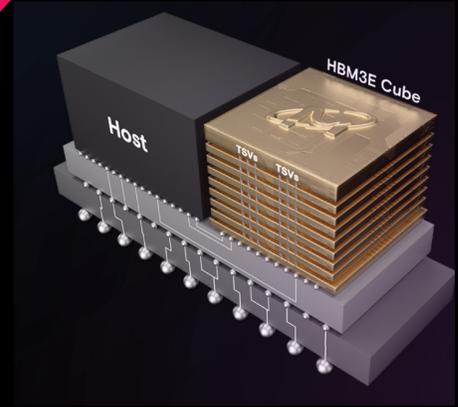# Introducing memory built for AI innovation

Micron® HBM3E

We are in the beginning of a golden era of artificial intelligence (AI), where AI is expected to be a central part of our everyday lives. This proliferation is being fueled by advances in compute and memory technologies.

High bandwidth memory (HBM) is at the forefront of these innovations. Built to solve complex computational AI problems, HBM DRAM addresses the needs of AI applications with:

- Wide IO bus to deliver higher bandwidth
- Advanced packaging with chip on wafer on substrate (CoWoS), system in package (SiP) technology for proximity to processor, delivering both high bandwidth (pin speed) and power (lower voltage)
- Vertically stacked through silicon vias (TSVs) to deliver high capacity in a small footprint

Advancing the rate of AI innovation

Micron is introducing the next generation of HBM3 memory with HBM3E.

Micron HBM3E has an industry best data rate of >9.2 Gb/s and 24GB capacity in an 8-high cube, resulting in >1.2 TB/s bandwidth with 2.5X performance/watt compared to the previous generation HBM2E.

All this is made possible with the most advanced 1β process node from Micron along with innovations in CMOS and packaging technologies.

Product highlights

- Advanced packaging with CoWoS, SiP support
- Better value than the competitive HBM in the market with:
  - 50% higher capacity
  - 50% higher bandwidth
  - 2.5X improvement in performance/watt

Key features

Improved reliability, availability, serviceability (RAS) features:

- Reed-Solomon on-die ECC
- Soft repair (temporary repair of memory cells)
- Hard repair (permanent repair of memory cells)
- Auto error check and scrub (ECS) support with error reporting function

Noise-tolerant data alignment enables industry-leading rank-to-rank timing

Advanced data eye mask design and process innovations deliver system signal and power integrity improvements

Fully programmable mBIST capable of running at specification speed, replicating system traffic for better test coverage and faster debug

2X more TSVs compared to current HBM3 shipping solutions

micron.

HBM is the most energy efficient memory technology to address AI needs, as measured by picojoules (pJ) per bit.
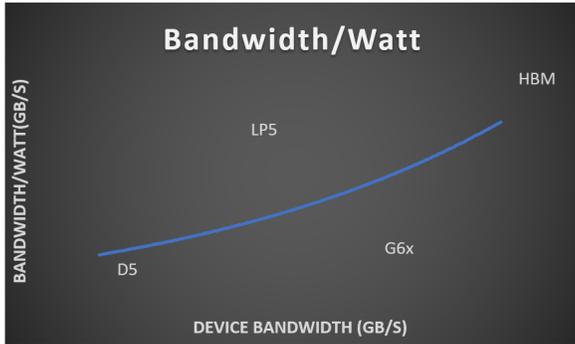
Specifications

Micron HBM3E	
Capacity	24GB, 36GB
Technology	8H, 12H HBM3E
Form Factor (mm)	11mm x 11mm x 0.72mm
Data Range	>9.2 Gb/s
Burst Length	8
Channel	16
Pseudo Channels	2
Bandwidth	>1.2 TB/s
Operating Temperature	$0°C \leq T_{OPER} \leq +105°C$

Contact your Micron representative for more details.

micron.com/HBM3E

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