SIMPLIFIED SOLUTIONS

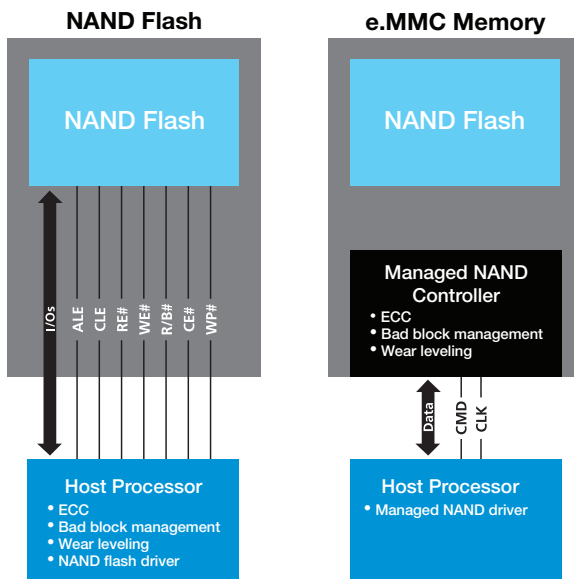## e.MMC for Automotive, Industrial, Consumer

Micron® e.MMC Memory

For system designs with mass storage needs, developers must keep up with the increasingly complex error correction code (ECC) implementation and data management requirements of MLC NAND flash devices. Micron's e.MMC memory can help developers overcome these challenges, offering quick system integration suited for a wide range of automotive, industrial and consumer applications.

How e.MMC Memory Works

Micron's e.MMC memory combines a NAND flash memory device with a JEDEC-compliant controller in an industry-standard BGA package. This single-package solution manages operations—such as wear leveling, bad block management and device mapping—internally, simplifying system development work. e.MMC also implements error handling internally, which removes the burden from the host processor, thereby optimizing system performance.

4 Ways e.MMC Can Benefit Your Design

1. Broad Portfolio

Choose from automotive-, industrial- and consumer-grade e.MMC solutions to meet your specific needs.

2. Superior Endurance

Build products that last with our superior e.MMC endurance.

3. Flexibility

Pick the package that's right for you:
- Industry-standard 153-ball BGA
- JEDEC-compliant 100-ball BGA; enables easier routing, lower board cost and better signal integrity

4. Automotive Qualification

Get the best quality and product longevity for automotive applications from our automotive-qualified e.MMC memory.

NAND Flash

NAND Flash

I/Os | ALE | CLE | RE# | WE# | R/B# | CE# | WP#

Host Processor
- ECC
- Bad block management
- Wear leveling
- NAND flash driver

e.MMC Memory

NAND Flash

Managed NAND Controller
- ECC
- Bad block management
- Wear leveling

Data | CMD | CLK

Host Processor
- Managed NAND driver

Micron e.MMC Memory for Embedded

Automotive Applications

- Advance driver assistance systems
- Cluster/dashboard
- Infotainment
- Drive data recorder

Industrial Applications

- Factory/building automation
- Point of sales
- Energy
- Transportation
- Aerospace and defense
- Surveillance
- Medical equipment

Consumer Applications

- Digital TVs (DTV)
- Set-top boxes (STB)
- Home automation
- Digital video cameras (DVC)
- Digital still cameras (DSC)
- Augmented reality/virtual reality (AR/VR)
- Wearables

Micron e.MMC Memory Performance Summary

Specs	e.MMC	e.MMC v5.0/v5.1
Density	2GB up to 64GB	4GB up to 128GB
Ballout and package	Industry-standard 153-ball BGA JEDEC-standard 100-ball BGA for easy routing	
Sequential write	Up to 20/23 MB/s	Up to 90/120 MB/s
Sequential read	Up to 44/130 MB/s	Up to 270/320 MB/s
Random write	Up to 100/1000 IOPS	Up to 5000/15,000 IOPS
Random read	Up to 1100/3500 IOPS	Up to 5000/15000 IOPS
Temperature	Industrial (–40℃ to 85℃) Automotive (–40℃ to 105℃)	

Easing the Design Process With Partner-Validated Solutions

To ease customer design-in activities, we engage with chipset vendors to proactively validate Micron's memory on chipset platforms. To find out more about Micron's e.MMC memory chipset-enabling activities, visit micron.com/ecosystem or contact your Micron representative.

Contact Us

Get the e.MMC solutions and support you need to speed your embedded design to market from a world-class flash supplier. Visit micron.com/emmc to learn more about product specifications and availability.

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