

e•MMC — the perfect storage solution for mobile and embedded applications

Overview

Kingston's 19nm e•MMC™ product follows the JEDEC e•MMC4.5 standard. e•MMC encloses the MLC NAND and e•MMC controller inside one JEDEC standard package, providing a standard interface to the host CPU. The e•MMC controller directs the Flash management, including ECC, wear leveling, IOPS optimization and read sensing, significantly reducing the storage management burden of the host CPU. It is an ideal universal storage solution for many electronic devices, including smartphones, tablet PCs, PDAs, eBook readers, MIDs, digital cameras and recorders, MP3, MP4 players, electronic learning products, digital TVs and set-top boxes. Not only used in consumer products, e•MMC is being adopted rapidly in embedded applications, such as many Computer on Module (COM) designs, because of its compact size, low power consumption and many enhanced features.

Key Benefits

- Simplifies the system design and reduces the time to market. The standard interface makes the fast-changing NAND technology invisible to the host. The host processor doesn't have to keep changing its software to accommodate every NAND technology change and variation. This helps to significantly reduce the design-in complexity and shorten the qualification cycle.
- Helps to improve the whole system performance. The e•MMC controller frees up the host processor's valuable resources from NAND management, so the host processor can use its processing power on other tasks.
- Provides a cost-effective solution. As opposed to SLC NAND, e•MMC uses MLC NAND. It makes higher capacity storage in mobile devices much more affordable and enables today's mobile devices to meet the increasing storage need.

19nm Part Numbers and Specifications

Part Number	Capacity	19nm Description	e•MMC Standard	Package	Category
KE4CN2H5A	4GB	Embedded MMC 4.5 153B 4GB	4.5	11.5 x 13 x 1.0	Standard
KE4CN3H5A	8GB	Embedded MMC 4.5 153B 8GB	4.5	11.5 x 13 x 1.0	Standard
KE4CN3K6A	8GB	Embedded MMC 4.5 169B 8GB	4.5	12 x 16 x 1.0	Standard
KE4CN4A5A	16GB	Embedded MMC 4.5 153B 16GB	4.5	11.5 x 13 x 1.2	Standard
KE4CN4K6A	16GB	Embedded MMC 4.5 169B 16GB	4.5	12 x 16 x 1.0	Standard
KE4CN5B6A	32GB	Embedded MMC 4.5 169B 32GB	4.5	12 x 16 x 1.2	Standard
KE4CN6C6A	64GB	Embedded MMC 4.5 169B 64GB	4.5	12 x 16 x 1.4	Standard

For more information, please visit kingston.com/emmc

Key Features

Features	e•MMC 4.5
Boot operation	✓
Partitioning	✓
Sleep mode	✓
Replay protected memory block	✓
Trim	✓
Hardware reset	✓
Enhanced reliable write	✓
Background operation	✓
High priority interrupt	✓
DDR interface	✓
Discard CMD	✓
Sanitize CMD	✓
Packed commands	✓
Context IDs	✓
Power off notification	✓
Data Tag	✓
RTC	✓
HS200	✓

