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

Overview

Kingston's 32nm e•MMC™ product follows the JEDEC e•MMC4.41 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.

32nm Part Numbers and Specifications

Kingston Part Number	Capacity	e•MMC Standard	Package	Dimension (mm)	Vccq (V)	Operating Temperature	Storage Temperature	Performance	
								Multi-Block Read Sequential (MB/s)	Multi-Block Write Sequential (MB/s)
KE44B- 25AN/2GB	2GB	4.41	FBGA153	11.5 x 13 x 1.2	1.8/3.3	-25°C - 85°C	-40°C - 85°C	26	12
KE44B- 26BN/4GB	4GB	4.41	FBGA169	12 x 16 x 1.2	1.8/3.3	-25°C - 85°C	-40°C - 85°C	26	12
KE44B- 26BN/8GB	8GB	4.41	FBGA169	12 x 16 x 1.2	1.8/3.3	-25°C - 85°C	-40°C - 85°C	40	20
KE4BT4B6A	16GB	4.41	FBGA169	12 x 16 x 1.2	1.8/3.3	-25°C - 85°C	-40°C - 85°C	40	20
KE4BT5D6A	32GB	4.41	FBGA169	14 x 18 x 1.4	1.8/3.3	-25°C - 85°C	-40°C - 85°C	40	20

Key Features

Features	e•MMC 4.41
Flash	32nm MLC
Speed Class	104MB/s
Boot operation	√
Partitioning	√
Sleep mode	√
Replay protected memory block	√

Features	e•MMC 4.41
Trim	√
Hardware reset	√
Enhanced reliable write	√
Background operation	√
High prioritiy interrupt	√
DDR interface	√

For more information, please visit kingston.com/emmc

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