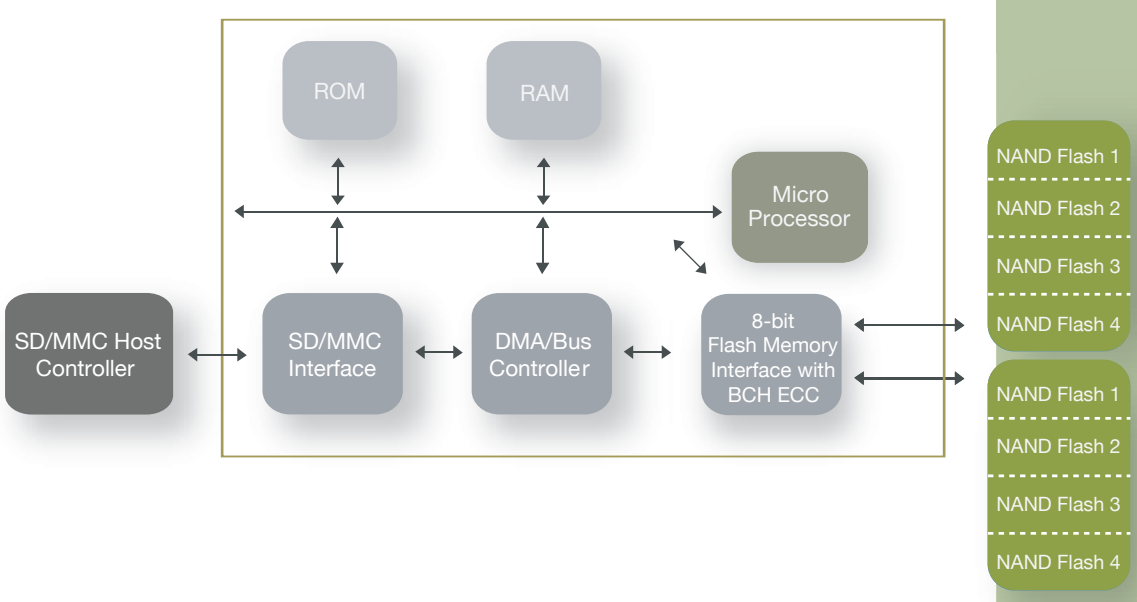
Mobile Storage Zoom Family

Silicon Motion's Zoom family offers a complete product line of flash card controllers, including CompactFlash®, Secure Digital™, miniSD™, microSD™, MultiMediaCard™, MMCplus™, MMCmobile™ and MMCmicro™ that are cost effective and high performance. OEMs using our controllers are able to achieve very high levels of compatibility with host devices and thereby minimize go-to-market risk. Zoom family controllers can also be found in various Embedded MMC (eMMC) products used in portable devices.

Silicon Motion's proprietary QuickWrite® technology provides unsurpassed performance for flash cards with up to 50% boost in data throughput. Furthermore, patented FastMDC® technology ensures high performance and reliability of data stored.

Silicon Motion flash card controllers are designed to support the vast majority of flash components manufactured whether from Samsung, Toshiba, Micron, Intel, Hynix, or Numonyx. This comprehensive flash support provides OEMs with significant flexibility in using the flash of their choice. Additionally, because the firmware in our controllers is upgradeable, OEMs can rapidly bring new products to market using their latest choice of flash, often without having to change hardware.

SM2682 Block Diagram



SD Controllers

Parameter	SM2681	SM2682	SM2682LT	SM2683
Memory card standards	SD2.0	SD2.0	SD2.0	SD2.0
Flash I/F	1-channel	2-channel	1-channel	1-channel
Voltage	3.3V	3.3V/1.8V	3.3V	3.3V
ECC	8bits/512bytes	8&15bits/512bytes	28bits/1Kbytes	13&24bits/1Kbytes
NAND supported	5x/4x	5x/4x/3x	5x/4x/3x	5x/4x/3x
CE/Channel	4	4	4	4
4K/page	Yes	Yes	Yes	Yes
8K/page	--	--	Yes	Yes
Block size 1MB	--	Yes	Yes	Yes
Max MLC write	14.5*MB/s	16*MB/s	14.5*MB/s	18*MB/s
Max speed class	Speed Class 6	Speed Class 6	Speed Class 6	Speed Class 6
Wear-leveling	Zone-based	Global	Zone-based	Global
Process	0.16µm	0.18µm	0.16µm	0.16µm
Package	LGA48	LGA48	LGA48	LGA48
Pad pitch	67µm	62µm	67µm	64µm

* This figure may vary on different platform

MMC Controllers

Parameter	SM267	SM2671	SM2672	SM2672LT
Memory card standards	MMC4.2	MMC4.2	eMMC4.3/MMC4.3	MMC4.2
Flash I/F	2-channel	1-channel	2-channel	1-channel
Voltage	1.8V/3.3V	3.3V	3.3V/1.8V	3.3V
ECC	4bytes/512bytes	8bits/512bytes	8&15bits/512bytes	28bits/1Kbytes
NAND supported	5x/4x	5x/4x	5x/4x/3x	5x/4x/3x
CE/Channel	4	4	4	4
4K/page	Yes	Yes	Yes	Yes
8K/page	--	--	--	Yes
Block size 1MB	--	--	Yes	Yes
Wear-leveling	Zone-based	Zone-based	Global	Zone-based
Process	0.18µm	0.16µm	0.18µm	0.16µm
Package	LGA48	LGA48	LGA48	LGA48
Pad pitch	62µm	67µm	62µm	67µm

CF Controllers

Parameter	SM223	SM2232	SM2234
Host standards	CF4.1	CF4.1	CF4.1
IDE PIO support	Mode 0-6	Mode 0-6	Mode 0-6
IDE Ultra DMA support	Mode 0-5	Mode 0-6	Mode 0-6
Flash interface	2-channel	2-channel	4-channel
Voltage support	5V/3.3V	5V/3.3V	3.3V
ECC support	4-symbol	24bits/1Kbytes	15bits/512bytes
In-System-Programming support	Yes	Yes	Yes
Flash type support	SLC/MLC	SLC/MLC	SLC/MLC
Max speed for NAND Flash	R:50*MB/s; W:40*MB/s	R: 50*MB/s; W: 45*MB/s	R:90*MB/s; W:80*MB/s
Max capacity support	64GB	64GB	128GB
Process	0.16µm	0.16µm	0.16µm
Package	128-pin TQFP	128-pin TQFP	144-pin BGA

* This figure may vary on different platform