ACSC4MXXXS25

(Based on NAND Flash 2.5” SATA SSD)

Datasheet

Rev 1.0

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1. Introduction

1.1 Overview

KingSpec's SATAIII SSD (Solid State Drive) is a high performance and high reliability storage device based on NAND Flash technology that designed to solve the bottleneck of computing system by traditional hard disk drives. KingSpec's SATAIII SSD doesn't have a moving parts and it has a same host interface and same physical dimension with Hard Disk Drive,So it can be drop-in replaced with the hard disk drives without anything. With a high performance and low power consumption, KingSpec's SATAIII SSD can be a good storage device for NB and Tabletop PC .

KingSpec's SATAIII SSD purely consists of semiconductor devices and NAND flash memories, which give rugged features against shock and vibration use in extreme environment such as PC an increased MTBF. Further more, KingSpec's SATAIII SSD has highly advanced flash memory management algorithm to guarantee higher performance and data integrity.

1.2 Feature

- Performance

External Transfer Rate(Host Transfer Rate):6Gbps

Sequential Data Read/Write:

Density	128GB	256GB	512GB	1TB
Channel	4CH	4CH	4CH	4CH
Speed(MB/s)	489/188	520/296	529/432	530/466

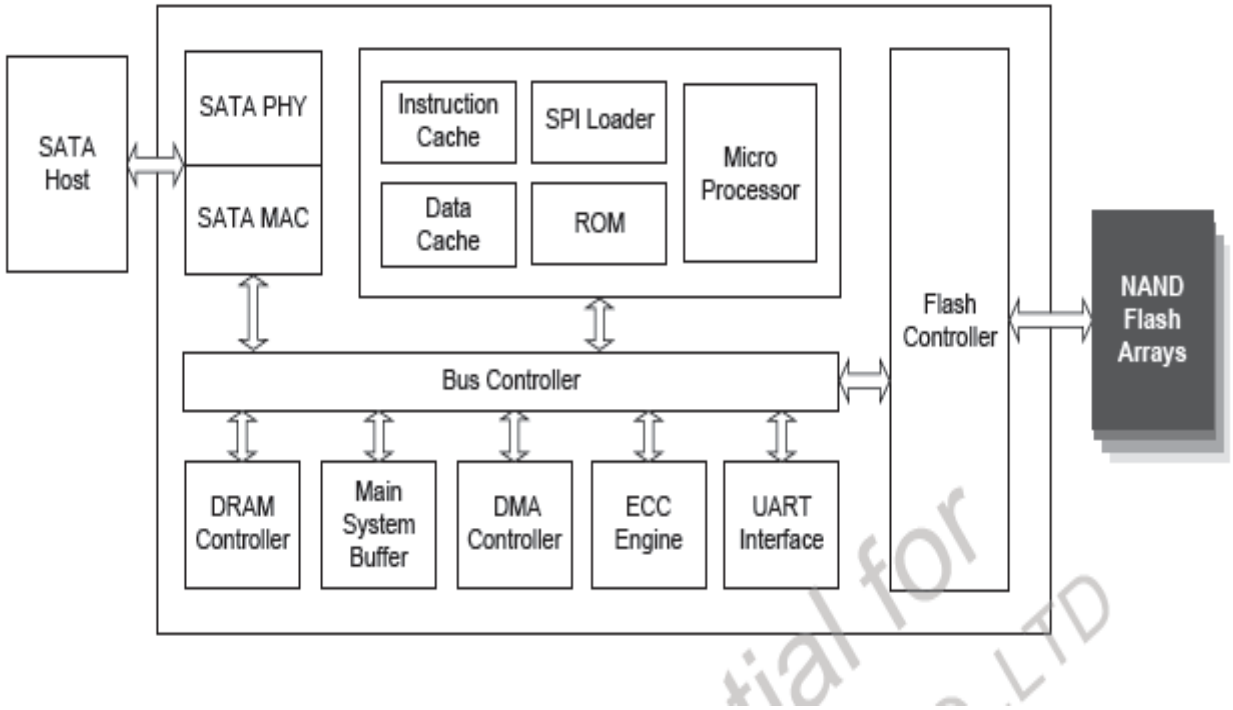
Cache:256MB

Form factor: 2.5-inch (100.2mm x 69.8mm x 9.5mm)

- Interface standard: Serial ATA Revision 3.0
- Input voltage:5V (±5%)
- Commercial operating temperature range form 0 to +70℃
- Flash management algorithm: static and dynamic wear-leveling, bad block management algorithm
- Supports dynamic power management and SMART (Self-Monitoring, Analysis and Reporting Technology), NCQ，Trim.
- ECC (Error Correction Code): BCH ECC capable of correcting errors up to 66-bit/1KB
- Write endurance: >8 years @ 100GB write/ day(64GB)
- Read endurance: unlimited
- Data retention: 10 years
- MTBF:1,000,000 Hours

2. Block Diagram

Figure 1: SM2246 Block Diagram

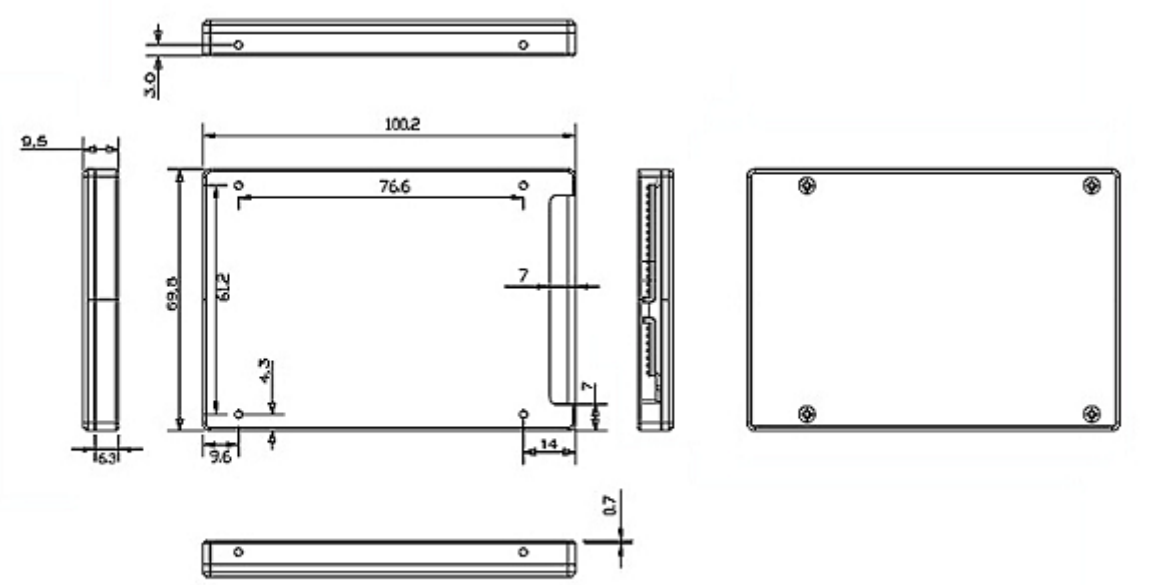


3. Product Specifications

3.1 Physical Specifications

Tabel 1 Physical dimensions and weight

Model	Height（mm）	Width（mm）	Length（mm）	Weight(g)
128GB,256GB,512GB,1TB	9.5+/-0.25	69.8+/-0.25	100.2+/-0.25	TBD



(Unit: mm)

3.2 Interface

The interface of KingSpec's SSD complies with the standard serial ATA revision 3.0:

①Host Transfer Rate is 6.0Gb/s

②PIO mode 0,1,2,3,4

③DMA mode 0,1,2

④UDMA mode 0,1,2,3,4,5,6

3.3 Performance Testing

3.3.1 **Maximum Data Transfer Rate:**

·Maximum sustained read: 529MB/s
·Maximum sustained write: 432MB/s

Note:

1).CPU: Intel® Core（TM） i5-2400 CPU @ 3.10GHz
Chipset: Intel® Z68 Express Chipset
OS:Microsoft Windows 7 Professional 64-bit
AHCI Driver: Server Express Chipset SATA AHCI Controller
BIOS Settings: AHCI Mode
2).Test Program：CrystalDiskMark3_0_0
3).Test Drive：ACSC4M512S25

3.3.2 IO Performance:

Table2 IO Performance Values For 2.5" SATA MLC SSD

Access Type	IOPS Operation unit size	
	512Byte	4KByte
Sequential Read	81000	82000
Sequential Write	17000	17000
Random Read	80000	72000
Random Write	17000	15000

Note:

1).CPU: Intel® Core（TM） i5-2400 CPU @ 3.10GHz
Chipset: Intel® Z68 Express Chipset
OS: Microsoft Windows 7 Professional 64-bit
AHCI Driver: Server Express Chipset SATA AHCI Controller
BIOS Settings: AHCI Mode
2).Test Program:Iometer2008
3).Test Drive:ACSC4M512S25

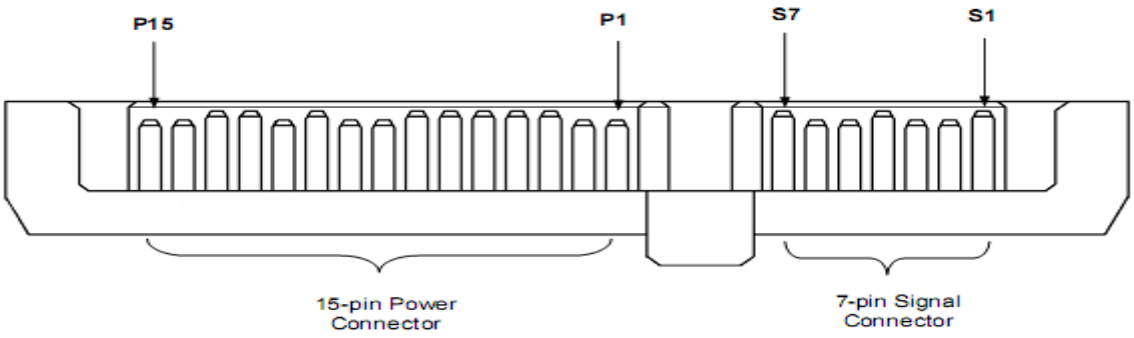
3.3.3 Access Time:

1).CPU: Intel® Core（TM） i5-2400 CPU @ 3.10GHz
Chipset: Intel® Z68 Express Chipset
OS: Microsoft Windows 7 Professional 64-bit
AHCI Driver: Server Express Chipset SATA AHCI Controller
BIOS Settings: AHCI Mode
2).Test Program：HD Tune Pro 3.50
3).Test Drive:ACSC4M512S25
Random access time：0.15 msec

4. Interface Description

4.1 Pin Assignment

The following diagram identifies the pin location of Kingspec SATA SSD.



4.2Pin Description

Table 3 SATA Connector Pinout

Signal

Pin#	Signal Name	Description
S1	GND	2nd mate
S2	A+	Differential signal pair A
S3	A-	From physical layer electronics
S4	GND	2nd mate
S5	B-	Differential signal pair B
S6	B+	From physical layer electronics
S7	GND	2nd mate
Power		
P1	V33	NC
P2	V33	NC
P3	V33	NC
P4	GND	1st mate
P5	GND	2nd mate
P6	GND	2nd mate
P7	V5	5V Power,pre-charge, 2nd mate
P8	V5	5V Power
P9	V5	5V Power
P10	GND	2nd mate
P11	DAS/DSS	Device Activity Signal/Disable Staggered spinup(Unused)
P12	GND	1st mate
P13	V12	NC
P14	V12	NC
P15	V12	NC

5.Product Trait

5.1 Environment Specification

Table 4 Environmental Specifications

Features	Operating
Temperature	0~70℃
Humidity	5-95%

5.2 Power Specification

Recommended DC Operating Voltage:4.75V~5.25V

Table 5 Power Consumption

Parameter		Typical	Unit
Standby		0.50	W
Idel		2.91	W
4KByte Sample Data	Sequential Read	1.16	W
	Sequential Write	2.21	W
	Random Read	1.83	W
	Random Write	2.5	W
512KByte Sample Data	Sequential Read	1.01	W
	Sequential Write	1.21	W
	Random Read	1.46	W
	Random Write	2.1	W

Note:

1. The power consumption can differ depending on the disk capacity and the type of flash memory being used
2. The test drive: ACSC4M512S25
3. Supply voltage:5V+/-5%

5.3 Reliability Specification

Wear-leveling

KingSpec's SATAIII SSD support both static and dynamic wear-leveling,These two algorithms guarantee all type of flash memory at same level of erase cycles to improve lifetime limitation of NAND based storage

Endurance

Write endurance: >8 years @ 100GB write/ day(32GB)

Read endurance: unlimited

ECC

ECC (Error Correction Code): Supports BCH 8/16/24/40 bits ECC

Bad block management algorithm

This algorithm replaces bad blocks with new ones from available spares on media error conditions.

MTBF

MTBF(Mean Time between Failures) of KingSpec's SSD：1，000，000 hours

Data retention

Data retention at 25℃ of KingSpec's SSD:>10 years

6. Electrical Characteristics

6.1 Absolute Maximum Rating

Parameter	Symbol	Condition	Min	Max	Unit
Analog power supply	AVDDH		-0.5	6	V
Digital I/O power supply	DVDD		-0.5	6	V
Digital I/O input voltage	$V_{I(D)}$		-0.4	DVDD+0.4	V
Storage temperature	$T_{STORAGE}$		-40	130	°C

6.2 Recommended Power Supply Operation Conditions and Temperature

Parameter	Symbol	Condition	Min	Typical	Max	Unit
Operation digital power supply	G3V3		-5%	3.3	+5%	V
	FVDD			3.3/1.8		
	C1V2		-5%	1.25	+5%	V
Operation analog power supply	AS1V2		-5%	1.25	+5%	V
	AS3V3		-5%	3.3	+5%	V
Ambient operation temperature	T_A	For commercial spec.	0		70	°C
Ambient operation temperature	T_A	For industry spec.	-40		85	°C
Junction temperature	T_J				125	°C
Case operation temperature	T_c	For commercial spec and base on T_A			95	°C
Case operation temperature	T_c	For industry spec and base on T_A			105	°C
TFBGA 288 ball	θJC					°C/W

6.3 Recommended External Clock Source Conditions

Parameter	Symbol	Condition	Min	Typical	Max	Unit
External reference clock				25		MHz
Clock Duty Cycle			45	50	55	%

6.4 Power Supply DC Characteristics (SATA Idle mode)

Power supply: PC's SATA 5V input						
Parameter	**Symbol**	**Condition**	**Min**	**Typical**	**Max**	**Unit**
Digital Power Supply	I_{PV33}	3.3V			TBD	mA
	I_{DV12}	1.2V			TBD	mA
SATA Analog Power Supply	I_{ASV33}	3.3V			TBD	mA
SATA Analog Power Supply	I_{ASV12}	1.2V			TBD	mA

6.5 Power Supply DC Characteristics (SATA Active mode)

Power supply: PC's SATA 5V input						
Parameter	**Symbol**	**Condition**	**Min**	**Typical**	**Max**	**Unit**
Digital Power Supply	I_{PV33}	3.3V			TBD	mA
	I_{DV12}	1.2V			TBD	mA
SATA Analog Power Supply	I_{ASV33}	3.3V			TBD	mA
SATA Analog Power Supply	I_{ASV12}	1.2V			TBD	mA

6.6 I/O DC Characteristics

Parameter	**Symbol**	**Condition**	**Min**	**Typical**	**Max**	**Unit**
Input low voltage	V_{IL}				0.8	V
Input high voltage	V_{IH}		2.4			V
Output low voltage	V_{OL}		1.5			V
Output high voltage	V_{OH}				3.3	V

6.7 Power Sequence (No DEVSLP)

Parameter	**Symbol**	**Condition**	**Min**	**Typical**	**Max**	**Unit**
Time interval between 3.3V and 1.2V/1.8V	T01		-2	0	2	ms
Time interval between last power and RSTn	T02		150	200	250	ms

6.8 Power Sequence (DEVSLP)

Parameter	Symbol	Condition	Min	Typical	Max	Unit
Time interval between 3.3V and 1.2V/1.8V	T01		-2	0	2	ms
Time interval between last power and RSTn	T02		12	-		ms

7.Command Descriptions

7.1 Support ATA Command

This table with the following paragraphs summarizes the ATA command set.

Command table

Command Name	Code	PARAMETERS USED					
		SC	SN	CY	DR	HD	FT
CHECK POWER MODE	E5h	X	X	X	O	X	X
EXECUTE DIAGNOSTICS	90h	X	X	X	O	X	X
FLUSH CACHE	E7h	X	X	X	O	O	X
IDENTIFY DEVICE	ECh	X	X	X	O	X	X
IDLE	E3h	O	X	X	O	X	X
IDLE IMMEDIATE	E1h	X	X	X	O	X	X
INITIALIZE DEVICE PARAMETERS	91h	O	X	X	O	O	X
READ DMA	C8h	O	O	O	O	O	X
READ DMA EXT	25h	O	O	O	O	O	X

READ FPDMA QUEUED	60h	O	O	O	O	O	X
READ LOG DMA EXT	47h	O	O	O	O	O	X
READ LOG EXT	2Fh	O	O	O	O	O	X
READ MULTIPLE	C4h	O	O	O	O	O	X
READ SECTOR(S)	20h or 21h	O	O	O	O	O	X
READ VERIFY SECTOR(S)	40h or 41h	O	O	O	O	O	X
RECALIBRATE	10h	X	X	X	O	X	X
SECURITY DISABLE PASSWORD	F6h	X	X	X	O	X	X
SECURITY ERASE PREPARE	F3h	X	X	X	O	X	X
SECURITY ERASE UNIT	F4h	X	X	X	O	X	X
SECURITY FREEZE LOCK	F5h	X	X	X	O	X	X
SECURITY SET PASSWORD	F1h	X	X	X	O	X	X
SECURITY UNLOCK	F2h	X	X	X	O	X	X
SEEK	7xh	X	X	O	O	O	X
SET FEATURES	EFh	O	X	X	O	X	O
SET MULTIPLE MODE	C6h	O	X	X	O	X	X
SLEEP	E6h	X	X	X	O	X	X
SMART	B0h	X	X	O	O	X	O
STANDBY	E2h	X	X	X	O	X	X
STANDBY IMMEDIATE	E0h	X	X	X	O	X	X
WRITE DMA	CAh	O	O	O	O	O	X
WRITE DMA EXT	35h	O	O	O	O	O	X
WRITE FPDMA QUEUED	61h	O	O	O	O	O	X
WRITE LOG DMA EXT	57h	O	O	O	O	O	X
WRITE LOG EXT	3Fh	O	O	O	O	O	X
WRITE MULTIPLE	C5h	O	O	O	O	O	X
WRITE SECTOR(S)	30h or 31h	O	O	O	O	O	X

Note:

O = Valid, X = Don't care

SC = Sector Count Register

SN = Sector Number Register

CY = Cylinder Low/High Register

DR = DEVICE SELECT Bit (DEVICE/HEAD Register Bit 4)

HD = HEAD SELECT Bit (DEVICE/HEAD Register Bit 3-0)

FT = Features Register

7.2 ATA COMMAND SPECIFICATIONS

IDENTIFY DEVICE (ECh)

This commands read out 512Bytes of drive parameter information. Parameter Information consists of the arrangement and value as shown in the following table. This command enables the host to receive the Identify Drive Information from the device.

Identify device information default value

Word	Value	F/V	Description
0	0040h		General configuration bit-significant information:
		F	15 0 = ATA device
		X	14-8 Retired
		F	7 1 = removable media device
		X	6 Obsolete
		X	5-3 Retired
		F	2 Reserved
		X	1 Retired
		F	0 Reserved
1	XXXXh	X	Number of logical cylinders
2	C837h	V	Specific configuration
3	00XXh	X	Number of logical heads
4-5	XXXXh	X	Retired
6	XXXXh	X	Number of logical sector per logical track
7-8	XXXXh	V	Reserved for assignment by the CompactFlash_ Association
9	000Eh	X	Retired
10-19	XXXXh	F	Serial number (20 ASCII characters)
20-21	XXXXh	X	Retired
22	003Fh	X	Obsolete
23-26	XXXXh	F	Firmware revision (8 ASCII characters)

27-46	XXXXh	F	Model number (40 ASCII characters)
47	8000h	F F F	15-8 80h 7-0 00h = Reserved 01h = Maximum number of 1 sectors on READ/WRITE MULTIPLE commands
48	4000h	F	Reserved
49	2F00h	 F F F F F F X	Capabilities 15-14 Reserved for the IDENTIFY PACKET DEVICE command. 13 1 = Standby timer values as specified in this standard are supported 0 = Standby timer values shall be managed by the device 12 Reserved for the IDENTIFY PACKET DEVICE command. 11 1 = IORDY supported 0 = IORDY may be supported 10 1 = IORDY may be disabled 9 1 = LBA supported 8 1 = DMA supported. 7-0 Retired
50	4000h	 F F F X F	Capabilities 15 Shall be cleared to zero. 14 Shall be set to one. 13-2 Reserved. 1 Obsolete 0 Shall be set to one to indicate a device specific Standby timer value minimum.
51-52	0000h	X	Obsolete
53	0007h	F F F X	15-3 Reserved 2 1 = the fields reported in word 88 are valid 0 = the fields reported in word 88 are not valid 1 1 = the fields reported in words 70:64 are valid 0 = the fields reported in words 70:64 are not valid 0 1 = the fields reported in words 58:54 are valid 0 = the fields reported in words 58:54 are not valid
54-58	XXXXh	X	Obsolete
59	0000h	F V V	15-9 Reserved 8 1 = Multiple sector setting is valid 7-0 xxh = Setting for number of sectors that shall be transferred per interrupt on R/W Multiple command
60-61	XXXXh	F	Total number of user addressable sectors
62	0000h	X	Obsolete
63	0007h	F V V V F	15-11 Reserved 10 1 = Multiword DMA mode 2 is selected 0 = Multiword DMA mode 2 is not selected 9 1 = Multiword DMA mode 1 is selected 0 = Multiword DMA mode 1 is not selected 8 1 = Multiword DMA mode 0 is selected 0 = Multiword DMA mode 0 is not selected 7-3 Reserved

		F	2 1 = Multiword DMA mode 2 and below are supported
		F	1 1 = Multiword DMA mode 1 and below are supported
		F	0 1 = Multiword DMA mode 0 is supported
64	0003h	F	15-8 Reserved
		F	7-0 Advanced PIO modes supported
65	0078h	F	Minimum Multiword DMA transfer cycle time per word
66	0078h	F	Manufacturer's recommended Multiword DMA transfer cycle time
67	0078h	F	Minimum PIO transfer cycle time without flow control
68	0078h	F	Minimum PIO transfer cycle time with IORDY flow control
69-74	0000h	F	Reserved (for future command overlap and queuing)
75	0000h	F	Queue depth 15:5 Reserved 4:0 Maximum queue depth - 1
76	xh	F	Serial ATA Capabilities 15:13 Reserved for Serial ATA 12 1 = Supports NCQ priority information 11 1 = Supports Unload while NCQ commands are outstanding 10 1 = Supports the SATA Phy Event Counters log 9 1 = Supports receipt of host initiated power management requests 8 1 = Supports the NCQ feature set 7:4 Reserved for Serial ATA 3 1 = Supports SATA Gen3 Signaling Speed (6.0Gb/s) 2 1 = Supports SATA Gen2 Signaling Speed (3.0Gb/s) 1 1 = Supports SATA Gen1 Signaling Speed (1.5Gb/s) 0 Shall be cleared to zero
77			Reserved
78	xh		Serial ATA features supported 15:7 Reserved for Serial ATA 6 1 = Device supports Software Settings Preservation 5 Reserved for Serial ATA 4 1 = Device supports in-order data delivery 3 1 = Device supports initiating power management 2 1 = Device supports DMA Setup auto-activation 1 1 = Device supports non-zero buffer offsets

			0 Shall be cleared to zero
79	xh		Serial ATA features enabled 15:7 Reserved for Serial ATA 6 1 = Software Settings Preservation enabled 5 Reserved for Serial ATA 4 1 = In-order data delivery enabled 3 1 = Device initiated power management enabled 2 1 = DMA Setup auto-activation enabled 1 1 = Non-zero buffer offsets enabled F 0 Shall be cleared to zero
80	01FEh		Major version number 0000h or FFFFh = device does not report version
		F	15 Reserved
		F	14 Reserved for ATA/ATAPI-14
		F	13 Reserved for ATA/ATAPI-13
		F	12 Reserved for ATA/ATAPI-12
		F	11 Reserved for ATA/ATAPI-11
		F	10 Reserved for ATA/ATAPI-10
		F	9 Reserved for ATA/ATAPI-9
		F	8 Reserved for ATA/ATAPI-8
		F	7 1 = supports ATA/ATAPI-7
		F	6 1 = supports ATA/ATAPI-6
		F	5 1 = supports ATA/ATAPI-5
		F	4 1 = supports ATA/ATAPI-4
		F	3 Obsolete
		X	2 Obsolete
		X	1 Obsolete
		F	0 Reserved
81	0021h	F	Minor version number
82	0068h		Command set supported.
		X	15 Obsolete
		F	14 1 = NOP command supported
		F	13 1 = READ BUFFER command supported
		F	12 1 = WRITE BUFFER command supported
		X	11 Obsolete
		F	10 1 = Host Protected Area feature set supported
		F	9 1 = DEVICE RESET command supported
		F	8 1 = SERVICE interrupt supported
		F	7 1 = release interrupt supported
		F	6 1 = look-ahead supported
		F	5 1 = write cache supported
		F	4 Shall be cleared to zero to indicate that the PACKET Command feature set is not supported.
		F	3 1 = mandatory Power Management feature set supported

		F	2	1 = Removable Media feature set supported
		F	1	1 = Security Mode feature set supported
			0	1 = SMART feature set supported
83	5000h		Command sets supported.	
		F	15	Shall be cleared to zero
		F	14	Shall be set to one
		F	13-9	Reserved
		F	8	1 = SET MAX security extension supported
		F	7	Reserved
		F	6	1 = SET FEATURES subcommand required to spinup after power-up
		F	5	1 = Power-Up In Standby feature set supported
		F	4	1 = Removable Media Status Notification feature set supported
		F	3	1 = Advanced Power Management feature set supported
		F	2	1 = CFA feature set supported
		F	1	1 = READ/WRITE DMA QUEUED supported
		F	0	1 = DOWNLOAD MICROCODE command supported
84	4000h		Command set/feature supported extension.	
		F	15	Shall be cleared to zero
		F	14	Shall be set to one
		F	13-2	Reserved
		F	1	1 = SMART self-test supported
		F	0	1 = SMART error logging supported
85	0008h		Command set/feature enabled.	
		X	15	Obsolete
		F	14	1 = NOP command enabled
		F	13	1 = READ BUFFER command enabled
		F	12	1 = WRITE BUFFER command enabled
		X	11	Obsolete
		V	10	1 = Host Protected Area feature set enabled
		F	9	1 = DEVICE RESET command enabled
		V	8	1 = SERVICE interrupt enabled
		V	7	1 = release interrupt enabled
		V	6	1 = look-ahead enabled
		V	5	1 = write cache enabled
		F	4	Shall be cleared to zero to indicate that the PACKET Command feature set is not
		F	supported.	
		F	3	1 = Power Management feature set enabled
		V	2	1 = Removable Media feature set enabled
		V	1	1 = Security Mode feature set enabled
			0	1 = SMART feature set enabled
86	5000h		Command set/feature enabled.	
		F	15-9	Reserved
		F	8	1 = SET MAX security extension enabled by SET MAX SET PASSWORD
		F	7	See Address Offset Reserved Area Boot, INCITS TR27:2001
		F	6	1 = SET FEATURES subcommand required to spin-up after power-up
		V	5	1 = Power-Up In Standby feature set enabled
		V	4	1 = Removable Media Status Notification feature set enabled
		V	3-1	1 = Advanced Power Management feature set enabled
		F	0	1 = DOWNLOAD MICROCODE command supported

87	4000h		Command set/feature default.
		F	15 Shall be cleared to zero
		F	14 Shall be set to one
		F	13-2 Reserved
		F	1 1 = SMART self-test supported
		F	0 1 = SMART error logging supported
88	xh		15-14 Reserved
		V	13 1 = Ultra DMA mode 5 is selected
			0 = Ultra DMA mode 5 is not selected
		V	12 1 = Ultra DMA mode 4 is selected
			0 = Ultra DMA mode 4 is not selected
		V	11 1 = Ultra DMA mode 3 is selected
			0 = Ultra DMA mode 3 is not selected
		V	10 1 = Ultra DMA mode 2 is selected
			0 = Ultra DMA mode 2 is not selected
		V	9 1 = Ultra DMA mode 1 is selected
			0 = Ultra DMA mode 1 is not selected
		F	8 1 = Ultra DMA mode 0 is selected
		F	0 = Ultra DMA mode 0 is not selected
		F	7-6 Reserved
		F	5 1 = Ultra DMA mode 5 and below are supported
		F	4 1 = Ultra DMA mode 4 and below are supported
		F	3 1 = Ultra DMA mode 3 and below are supported
			2 1 = Ultra DMA mode 2 and below are supported
			1 1 = Ultra DMA mode 1 and below are supported
			0 1 = Ultra DMA mode 0 is supported
89	0000h	F	Time required for security erase unit completion
90	0000h	F	Time required for Enhanced security erase completion
91	0000h	V	Current advanced power management value
92	0000h	V	Master Password Revision Code
93	0000h	X	Hardware reset result
94-126	0000h	V	Reserved
127	0000h		Removable Media Status Notification feature set support
		F	15-2 Reserved
		F	1-0 00 = Removable Media Status Notification feature set not supported
			01 = Removable Media Status Notification feature supported
			10 = Reserved
			11 = Reserved
128	0001h		Security status
		F	15-9 Reserved
		V	8 Security level 0 = High, 1 = Maximum
		F	7-6 Reserved
		F	5 1 = Enhanced security erase supported
		V	4 1 = Security count expired
		V	3 1 = Security frozen

		V V F	2 1 = Security locked 1 1 = Security enabled 0 1 = Security supported
129-159	0000h	X	Vendor specific
160-254	0000h	X	Reserved
255	0000h	X	Integrity word 15-8 Checksum 7-0 Signature

Key:
F/V = Fixed/variable content
F = the content of the word is fixed and does not change. For removable media devices, these values may change when media is removed or changed.
V = the contents of the word is variable and may change depending on the state of the device or the commands executed by the device.
X = the content of the word may be fixed or variable.

SET FEATURES (EFh)

This command set parameter to Features register and set drive's operation. For transfer mode, parameter is set to Sector Count register. This command is used by the host to establish or select certain features.

Features register value and settable operating mode

Value	Function
02h	Enable write cache
03h	Set transfer mode based on value in Sector Count register.
55h	Disable read look-ahead feature
82h	Disable write cache
90h	Disable use of SATA feature
AAh	Enable read look-ahead feature

8. Ordering Information

ACSC4MXXXS25

AC：Kingspec&ACstorage
SC4：Controller is SM2246EN
M：Based on MLC NAND Flash
XXX： Density

XXX	Density
128	128GB
256	256GB
512	512GB
1T	1TB

S25： 2.5inch SATA Interface