

40V2-XXX

40Pin IDE DOM

Rev:1.0

Note:

Company will not give any notice for change of products specifications. This product manual is only for reference. Please contact with KingSpec Electronic Technology Co., Ltd. for more detail technical parameters and information.

Shenzhen KingSpec Electronics Technology Co., Ltd.

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1. Product introduction**1.1 Summary**

40V2-XXX is a high performance and high reliability storage device which consists nonvolatile NAND Flash memories and semiconductor components. This technology is designed to optimize the limitations of low computing performance of traditional hard disk drives. All mechanical parts have been replaced with electronic components to prevent shock and vibration damages.

1.2 Product model list

Model	Flash	Capacity	Sequential Read	Sequential Write
40V2-8	MLC	8GB	40~50 MB/S	10~25 MB/S
40V2-16	MLC	16GB	45~55 MB/S	20~30 MB/S
40V2-32	MLC	32GB	55~65 MB/S	30~40 MB/S
40V2-64	MLC	64GB	60~70 MB/S	35~45 MB/S

1.3 Specifications

1.3.1 Interface protocol: ATA/ATAPI-8;

1.3.2 Input voltage: DC 5V (±5%);

1.3.3 Operating temperature: 0℃ ~ +70℃;

1.3.4 Storage temperature: -20℃ ~ +75℃;

1.3.5 physical dimension: 59.4mm length * 27.45mm wide * 8.36mm height
error±0.5mm;

1.3.6 Write endurance: Write 100GB /Day, theoretically can use 8 years;

1.3.7 Read life: unlimited;

1.3.8 MTBF: 1,000,000 hours;

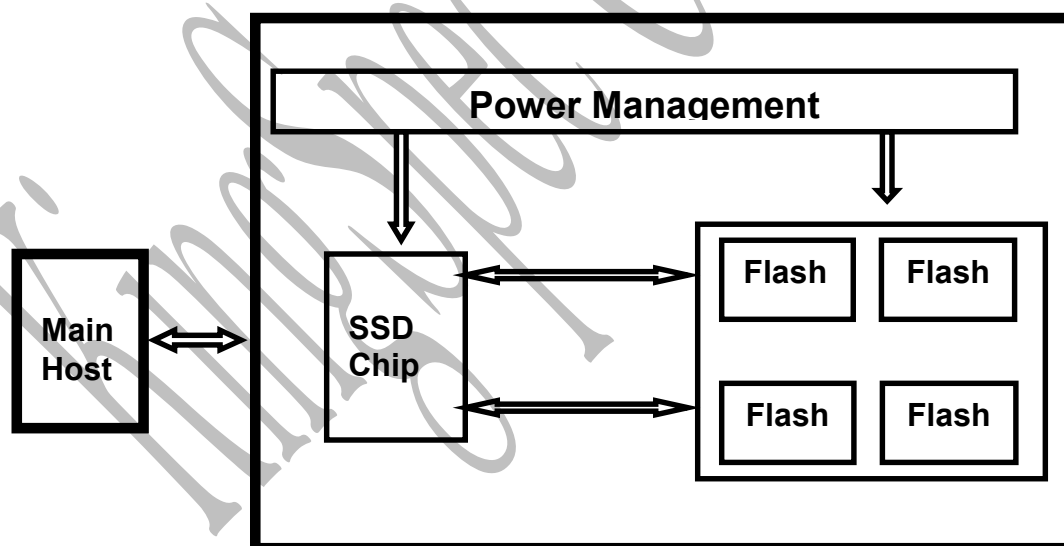
1.3.9 Support Capacity: 8GB, 16GB, 32GB, 64GB;

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1.4 Features

- 1.4.1 ATA/ATAPI-8 interface.
- 1.4.2 Support wear leveling.
- 1.4.3 Support Garbage collection.
- 1.4.4 Support Over-provisioning.
- 1.4.5 Support power management and intelligent management technology.
- 1.4.6 Support Native Command Queuing (NCQ) ;
- 1.4.7 Support Error Checking And Correcting(ECC).
- 1.4.8 Support PIO mode 0,1,2,3,4;
- 1.4.9 Support MDMA mode 0,1,2;
- 1.4.10 Support UDMA mode 0,1,2,3,4,5,6,7;

2. Block diagram

3. Measurements

L59.4mm * W27.45mm * H8.36mm, Error±0.5m (e.g. Figure 1)

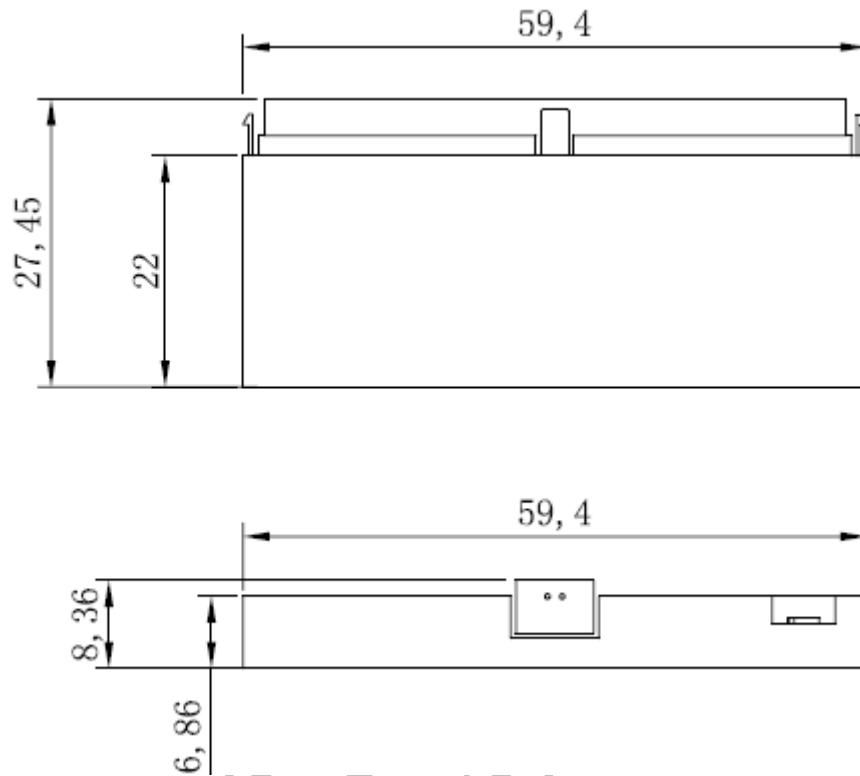


Figure 1

4. Interface description/Pin description

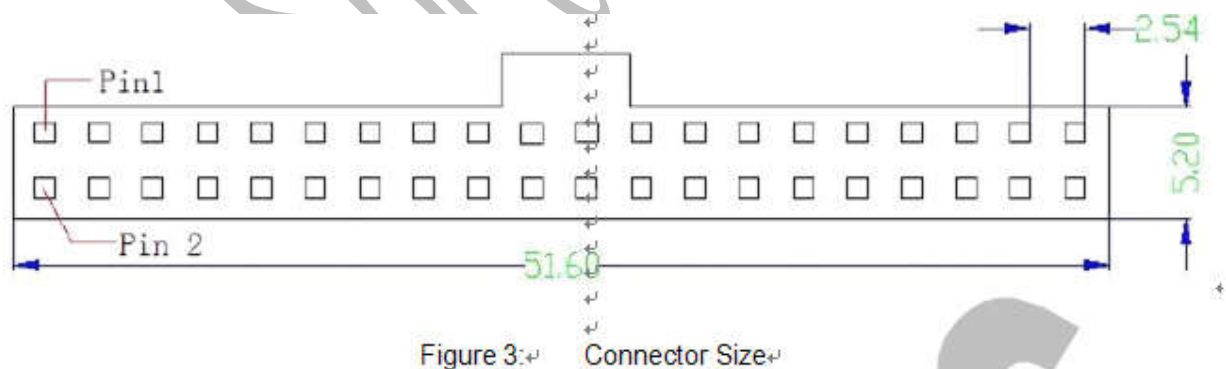


Figure 3: Connector Size

Figure 2

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(e.g. Figure 2)

PIN	PIN Definition	PIN	PIN Definition
1	reset	21	DMARQ
2	GND	22	GND
3	D7	23	IOW#
4	D8	24	GND
5	D6	25	IOR#
6	D9	26	GND
7	D5	27	IRDY
8	D10	28	CSEL
9	D4	29	DMACK
10	D11	30	GND
11	D3	31	INTRQ
12	D12	32	IOCS16#
13	D2	33	A1
14	D13	34	PDIG#
15	D1	35	A0
16	D14	36	A2
17	D0	37	CS0#
18	D15	38	CS1#
19	GND	39	DASP
20	NC	40	GND

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5. Performance**5.1 Read & Write Speed Test**

Model: 40V2-64

Motherboard: Intel Z68

CPU: Intel® Core(TM) i5-2400 3.10GHz

Memory: Kingston 4GB

OS: WIN7 Professional

BIOS Set: AHCI model

Test Software: CrystalDiskMark5.2

Test Project	Read	Write
Sequential read and write	84MB/S	42MB/S
4K Read & Write	11MB/S	1MB/S

5.2 Data Throughput Test

Model: 40V2-64

Motherboard: Intel Z68

CPU: Intel® Core(TM) i5-2400 3.10GHz

Memory: Kingston 4GB

OS: WIN7 Professional

BIOS Set: AHCI mode

Test Software: Iometer 2008

Test Project	Test Result	
	512K bytes	4Kbytes
Sequential Read	4872	4689
Sequential Write	4875	3813
Random Read	4236	3848
Random Write	247	438

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5.3 Access time

Model: 40V2-64

Motherboard: Intel Z68

CPU: Intel® Core (TM) i5-2400 3.10GHz

Memory: Kingston 4GB

OS: WIN7 Professional

BIOS Set: AHCI mode

Test Software: HD Tune Pro 3.50

Random Access time: 4.5ms

6. Power consumption

Input voltage: DC 5V (±5%)

Model test: 40V2-64

Test Project		Power Consumption	Unit
Idle		0.38	W
4K	Sequential Read	0.36	W
	Sequential Write	0.56	W
	Random Read	0.55	W
	Random Write	0.64	W
512K	Sequential Read	0.66	W
	Sequential Write	0.77	W
	Random Read	0.67	W
	Random Write	0.88	W