

Industrial Flash Storage Solution

CoreSolid Storage has the complete Flash and embedded system storage solutions for every industrial need! As one of the pioneer in the industry, we strive for innovation and second to none customer service to create a win-win partnership!



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CoreSolid Storage, the subsidiary of TDK Corporation(TDK), was founded in 2007. CoreSolid has been one of the leading industrial Flash memory solution providers. Not only offers the industrial grade high reliable quality Flash products for computer systems such as blade server, workstation, communication network, and transportation systems, but CoreSolid also provides customized solution, hardware and software, to various industrial applications to our customers.

Core Value

“Contribute to culture and industry through creativity”

Undoubtedly CoreSolid has been playing an important role in the Flash storage industry basing on mother company's strong finance structure and experienced technical know-how. CoreSolid has invested more engineering resource on software and hardware development to fulfill any demand from various applications. We are not only committed to customers by offering complete and quality Flash storage solution, but also committed to the whole society by providing more advanced products to reduce any power waste and ensure the system work perfectly and efficient.



Strength



1. Strong R&D and Engineering Experience

- PATA/SATA/PCIe DOM innovators
- More than 10 years design experience
- Excellent knowledge for controller and Flash
- F/W and S/W design capability

2. Total Solution Provider and Customer Design

- Special function design
- Unique form factor design
- Customer parameter setting
- Customized firmware design

3. Strong FAE Support Base on Good Domain Experience

- Individual FAE department
- Strong application domain knowledge
- Quick response

4. Well Experience in Distribution

- Worldwide distributors in US, EU, China, and Asia
- More than 400 customers' design-in successful stories
- More than 10 million industrial units shipment

5. Solid Reliability and Quality

- Design for quality method
- Strict quality control for production
- Excellent quality assurance system

6. Key Parts Vendor Strategy Alliance

- Strong relationship with Flash suppliers
- Deep relationship with controller suppliers
- Quality EMS for manufacture



Quality Control



CoreSolid provides the complete solution of DiskOnModule, industrial CompactFlash card, industrial SD card, and Solid State Disk. To ensure the CoreSolid Flash module may work perfectly to your system, we built up our own RDT(Reliability Demonstration Testing) and EST(Environmental Stress Testing) system for hardware and software qualification. EST can also apply to the development phase or throughout manufacturing to screen out defective assemblies. CoreSolid's capacity on qualification testing in lab may shorten the lead-time especially for any custom demand.



Complete Flash Module Solution

CoreSolid Storage provides the complete solution of DiskOnModule, industrial CompactFlash, SD card and Solid State Disk. SSD is a data storage device that uses Flash memory to store persistent data in most applications. With high capacity of Flash memory, it is also suitable for the usage of data storage memory for PCs, mobile computing devices, or other electronic equipments.

DiskOnModule

PATA/SATA/USB/PCI EXPRESS/
mini PCIe Solution

DiskOnModule (DOM) has been well established as an industry standard. Shock resistant and rugged designs are suited for harsh industrial environments compare with traditional hard drives.



Solid State Disk

PATA / SATA Solution

Solid State Disk (SSD) is built with the highest quality components. Solid State Disk offers a higher capacity with different form factors for applications where superior performance is required and offers the ease of disk driving. Solid State Disk is ideal for industrial applications where high capacity and reliable performance are essential.



CompactFlash

iCF Solution

Industrial CF card (iCF) is made to endure severe operating conditions such as high impact, continuous vibration, low and high operating temperature. These cards are durable and can last long time sustained data access.



SD/SDHC Card

iSD Solution

Industrial SD/SDHC card (iSD) is a series of memory cards that adopt Flash memory technology and content protection mechanism. It provides not only greater capacity with better performance but also data security to meet environment requirements for image, video and audio consumer electronic devices.



Customization

TDK Controller/Custom Module & Flash Designs

Basing on the strong relationship with Flash suppliers and excellent knowledge to controller and Flash, CoreSolid provides consulting service depending on your application and needs.

Software & Utility

FlashMonitor™

FlashMonitor™ supports CoreSolid Solid State Disk to predict the whole Flash drive life, system administrator and users can receive the early warning on disk failure. CoreSolid may provide SDK for further system integration.

DiskOnModule

SATA Solution

CoreSolid Storage SATA DOM series is Flash memory module based on Flash memory controller technology with SATA interface. This product complies with 7PIN or 7+15PIN SATA standard interface in horizontal type or in vertical type, and is suitable for data storage media and code loaded device for embedded systems. With high capacity of Flash memory, it is also suitable for the usage of data storage memory for PCs, mobile computing devices, or other electronic equipments.

This SATA DOM is equipped with NAND type SLC Flash memory. In using SLC Flash memory and the controller, it is able to provide high reliability and performance for sophisticated embedded system. With small form factor, SATA DOM can be installed on the compact motherboards and rugged systems.

Product Features

- Small form factor with SATA standard interface connector
- Compliant to SATA 2.6 (3.0Gbps) standard
- Support SMART function
- Support ATA security feature
- 5.0V operation
- Data storage device up to 8GB
- Robust Error-Correction
- High performance and high reliability
- Low power consumption



Gaia Series

Model	7PIN Vertical	7PIN Horizontal	7+15PIN Vertical	7+15PIN Horizontal
Capacity	128MB ~ 8GB			
Power Requirement	DC 5.0V			
Interface	7PIN SATA interface		7+15PIN SATA interface	
Flash Technology	NAND type SLC Flash based			
Standard Compliance	SATA Standard 2.6 Gen.2 (3.0Gbps)			
Transfer Mode	SATA 3.0Gbps			
Sequential Read (Est.)	Dual channel: 39MB/sec, Single channel: 19MB/sec			
Sequential Write (Est.)	Dual channel: 28MB/sec, Single channel: 14MB/sec			
Power Consumption	<270mA in operation			
Operating Temperature	0°C to 70°C (Industrial) , -40°C to 85°C (Wide Temperature)			
ECC	4 symbols correction per 512 Bytes, RS-ECC			
Wear Leveling	Global Wear-Leveling			
Dimension (mm)	28.8 x 48.9 x 9.0	24.9 x 45.5 x 15.20	36.09 x 44.0 x 7.44	30.0 x 44.0 x 10.8
Weight	<12g	<7.5g	<8.4g	



Ares Series

Model	7PIN Vertical
Capacity	1GB ~ 16GB
Power Requirement	DC 5.0V
Interface	7PIN SATA interface with hook
Flash Technology	NAND type SLC Flash based
Standard Compliance	SATA Standard 2.6 Gen.2 (3.0Gbps)
Transfer Mode	SATA 3.0Gbps
Sequential Read (Est.)	55MB/sec
Sequential Write (Est.)	52MB/sec
Power Consumption	<330mA in operation
Operating Temperature	0°C to 70°C (Industrial) , -40°C to 85°C (available)
ECC	15 bits correction per 512 Bytes, BCH ECC
Wear Leveling	Global Wear-Leveling
Dimension (mm)	36.5 x 32 x 7.9
Weight	<11g

Reliability Test

Operating Humidity	10% to 95% (30°C Max. Wet Bulb Temp)
MTTF	2,000,000 hours
Inserted Durability Test	Testing Condition: 3sec/cycle – Repeated Plug/Unplug 10,000 cycles
Vibration	Sine (Non-op) : 15Grms, 10 ~ 2000Hz, Random Vibration (op): 6Grms, 10~500Hz
Drop	75cm height

As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, megabit per second (Mb/s) = one million bits per second, and gigabit per second (Gb/s) = one billion bits per second.

DiskOnModule

PATA Solution

CoreSolid Storage 40 or 44PIN IDE DiskOnModule(DOM) is based on Flash memory controller technology. This product complies with 40 or 44PIN IDE(ATA) standard interface and is suitable for data storage media, code loaded device for boot disk in embedded systems, such as IPCs or other electric equipments. This DOM is equipped with NAND Flash memory. By using DOM, it is able to perform good performance for the systems, which has IDE interface. With small form factor, the IDE DOM can be installed on IPC motherboard.

Product Features

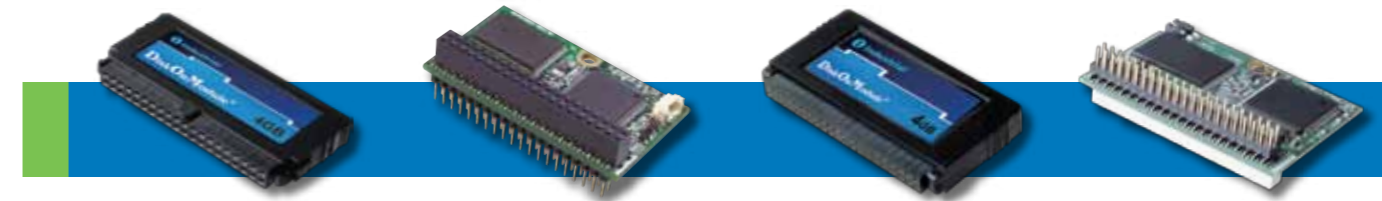
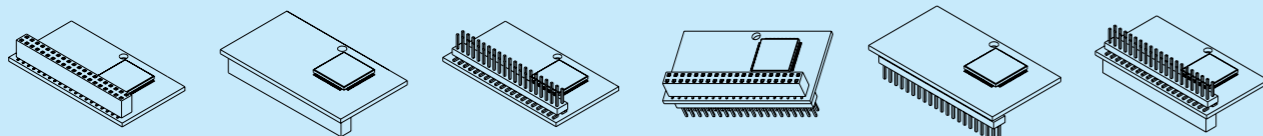
- Small form factor with IDE (ATA) standard interface connector
- High performance
- Support PIO Mode 4, MWDMA Mode 2, and UDMA Mode 4
- High reliability with robust Error-Correction
- Low power consumption
- Cable control for Master Mode
- Option model with switch for hardware write protect function
- Operating as boot disk or code storage device for embedded operating system
- Data storage device with capacity up to 16GB
- Voltage 3.3V or 5.0V operation



Gaia Series

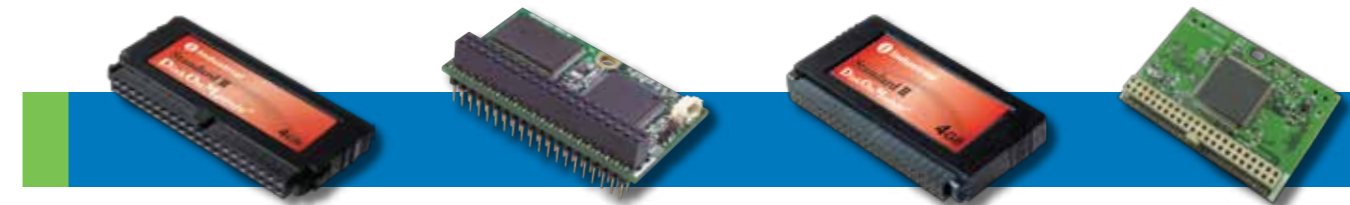
Model	40PIN Vertical	40PIN Horizontal	44PIN Vertical	44PIN Horizontal
Capacity	128MB ~ 8GB	128MB ~ 16GB	128MB ~ 8GB	128MB ~ 16GB
Power Requirement	DC 3.3V or DC 5.0V			
Interface	40PIN IDE (ATA) interface		44PIN IDE (ATA) interface	
Flash Technology	NAND type SLC Flash based			
Standard Compliance	ATA-6 Standard			
Transfer Mode	PIO Mode: 0-4, Multi Word DMA Mode: 0-2, Ultra DMA Mode: 0-4			
Sequential Read (Est.)	Dual channel: 39MB/sec, Single channel: 19MB/sec			
Sequential Write (Est.)	Dual channel: 28MB/sec, Single channel: 14MB/sec			
Power Consumption	<95mA in operation			
Operating Temperature	0°C to 70°C (Industrial) , -40°C to 85°C (Wide Temperature)			
ECC	4 symbols correction per 512 Bytes, RS-ECC			
Wear Leveling	Global Wear-Leveling			
Dimension (mm)	59.1 x 27.2 x 7.4	55.2 x 30.4 x 19.4	50.2 x 27.5 x 6.5	44.1 x 32.6 x 11.77
Weight	<12g			

IDE DOM Models



Hi-Speed Series

Model	40PIN Vertical	40PIN Horizontal	44PIN Vertical	44PIN Horizontal
Capacity	128MB ~ 6GB	128MB ~ 8GB	128MB ~ 4GB	128MB ~ 6GB
Power Requirement	DC 3.3V or DC 5.0V			
Interface	40PIN IDE (ATA) interface		44PIN IDE (ATA) interface	
Flash Technology	NAND type SLC Flash based			
Standard Compliance	ATA Standard			
Transfer Mode	PIO Mode: 0-4, MWDMA Mode: 0-2			
Sequential Read (Est.)	10MB/sec			
Sequential Write (Est.)	5MB/sec			
Power Consumption	<20mA in operation			
Operating Temperature	0°C to 70°C (Industrial) , -40°C to 85°C (Wide Temperature)			
ECC	6 Bytes correction per 512 Bytes, RS-ECC			
Wear Leveling	Static Wear-Leveling			
Dimension (mm)	59.1 x 27.2 x 7.4	55.2 x 30.4 x 19.4	50.2 x 27.5 x 6.5	48.1 x 32.6 x 10.5
Weight	<12g			



Standard II Series

Model	40PIN Vertical	40PIN Horizontal	44PIN Vertical	44PIN Horizontal
Capacity	128MB ~ 4GB	128MB ~ 8GB	128MB ~ 4GB	128MB ~ 4GB
Power Requirement	DC 3.3V or DC 5.0V			
Interface	40PIN IDE (ATA) interface		44PIN IDE (ATA) interface	
Flash Technology	NAND type SLC Flash based			
Standard Compliance	ATA Standard			
Transfer Mode	PIO Mode: 0-4, MWDMA Mode: 0-2, UDMA Mode: 0-2			
Sequential Read (Est.)	Dual channel: 20MB/sec, Single channel: 10MB/sec			
Sequential Write (Est.)	Dual channel: 10MB/sec, Single channel: 5MB/sec			
Power Consumption	<50mA in operation			
Operating Temperature	0°C to 70°C (Industrial) , -40°C to 85°C (Wide Temperature)			
ECC	4 symbols correction per 512 Bytes, RS-ECC			
Wear Leveling	Static Wear-Leveling			
Dimension (mm)	59.1 x 27.2 x 7.4	55.2 x 30.4 x 19.4	50.2 x 27.5 x 6.5	44.1 x 32.6 x 11.77
Weight	<12g			

Reliability Test

Operating Humidity	10% to 95% (30°C Max. Wet Bulb Temp)
MTTF	2,000,000 hours
Inserted Durability Test	Testing Condition: 3sec/cycle – Repeated Plug/Unplug 10,000 cycles
Vibration	Sine (Non-op) : 15Grms, 10 ~ 2000Hz, Random Vibration (op): 6Grms, 10~500Hz
Drop	75cm height

As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, megabit per second (Mb/s) = one million bits per second, and gigabit per second (Gb/s) = one billion bits per second.

DiskOnModule

USB Solution

CoreSolid Storage USB DiskOnModule(DOM) series is based on NAND type Flash memory technology. This product complies with 10PIN embedded USB interface on motherboard and is suitable for data storage memory medium for portable systems which require small capacity of main storage device or boot disk which working on Linux, WinCE operating system. By using USB DOM, it is able to perform good performance for the embedded system which has USB interface slots on motherboard.

CoreSolid Storage USB DOM is a storage device based on Flash memory technology, which emulates an ordinary magnetic hard disk. This series products provide all-in-one modularized solution for solid-state Flash disk. The USB DOM is suitable for use in portable and embedded systems which have limited space and power consumption.

Unlike IDE drives, no signal cable and extra special space is required. The USB DOM is an alternative solution for IDE Hard Disk Drive, which has moving parts. This USB DOM provides a good stability in moving system. It is also free from extra and special algorithm or some firmware driver. Just plug the USB DOM into the USB slot ,users can play the USB DOM as same as the Hard Disk Drives.

Product Features

- Small form factor with USB standard inside interface connector
- Compliant to USB 2.0 standard (backward compatible with USB1.1)
- Support Write Protect function
- Voltage 5.0V operation
- Data storage device up to 16GB
- Robust Error-Correction
- High performance and high reliability
- Low power consumption
- Industrial temperature operation, 0°C~70°C
- Low profile for horizontal type is available



Model	10PIN Vertical	10PIN Horizontal
Capacity	2GB ~ 8GB	2GB ~ 16GB
Power Requirement	DC 5.0V	
Interface	10PIN USB	
Flash Technology	NAND type SLC Flash based	
Transfer Mode	USB 2.0 / 1.1	
Sequential Read (Est.)	Single channel: 20MB/sec	Dual channel: 34MB/sec Single channel: 26MB/sec
Sequential Write (Est.)	Single channel: 15MB/sec	Dual channel: 22MB/sec Single channel: 23MB/sec
Power Consumption	<106mA in operation	
Operating Temperature	0°C to 70°C (Industrial)	
ECC	30 bits correction per 1024 Bytes, BCH ECC	
Wear Leveling	Dynamic Wear-Leveling	
Dimension (mm)	30.4 x 26.4 x 6.2	35.5 x 22.0 x 9.8 35.5 x 22.0 x 6.6 (low profile)
Weight	<4.5g	<6g

PCI Express Solution

CoreSolid Storage PCI Express DiskOnModule (DOM) has the excellent capability for express data access with PCI Express host interface. With single lane link of PCIe 250MB/sec bandwidth, PCI Express DOM performs good data transfer rate with fast response. It also offers adequate but sufficient memory space to embedded platform for operating system and data loading to prevent redundant memory cost from emerging. The patented clamp is to fasten itself on standard PCIe connector to make a rugged engagement. That solves the problem in some chassis which can't offer enough space to screw PCI Express DOM on card bracket.



Product Features

- Support host PCI Express bus
- Very low profile for 1U chassis computer system
- Easily install to mini iTX, XTX, PICMG 1.3, COM Express, EPIC-Express, EBX-Express SBC and backplanes
- Bootable Flash memory drive for system image file loading
- Compliant with AHCI 1.0, and ACPI 2.0
- Side clamp design for robust engagement with PCIe slot
- SMART function to report Flash memory physical status
- Lower power consumption
- Hardware write protection for system security
- Support standard ATA command

Model	XDOM 100
Capacity	8GB ~ 32GB
Interface	PCI Express x1 lane
Power Requirement	DC 3.3V
Power Consumption	360mA (typ.)
Sequential Read (Est.)	95MB/sec
Sequential Write (Est.)	70MB/sec
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)
Wear Leveling	Global Wear-Leveling
Flash Technology	SLC NAND
ECC	8 / 15-bit BCH
Dimension (mm)	12.1 x 84.9 x 29.7

mini PCIe Solution

CoreSolid Storage m100P series is the world first mini PCI Express DOM which fully works on PCI Express bus connected with mini PCI Express slot. Contrast with SATA-based SSD mini card for specific PC-like platform, like mSATA Flash card, m100P doesn't need serial pair of SATA signals to deliver data. Host system doesn't need to implement extra SATA signals into mini PCIe slot while working with mini PCIe DOM m100P. To build a standard mini PCIe slot in system board will contribute system to have much better I/O expansion capability for wireless and data storage devices. With multi-layer structure, m100P offers much higher memory capacity but still has a compact form factor that approaches to the size of modular SATA/IDE/USB Flash drive or CompactFlash®, CFast® Card. This makes m100P be the best alternative to regular 2.5"/1.8" SSD drive in terms of cost, space and cordless. Extreme rugged host connection with host mini PCIe slot to keep system running thru consecutive vibration conditions and away from abrupt shock impact. m100U series is also an option for your USB protocol demand.

Product Features

- High speed PCI Express bus support
- Compact form factor designed for highly integrated system with limited space
- High data transfer rate for embedded kernel system operation
- Extremely rugged design for severe operating conditions
- Bootable for image file loading
- Compliant with AHCI 1.0, and ACPI 2.0
- SMART function reports Flash memory status
- Lower power consumption
- Quick Self-Erase for emergency (customized)
- Drive access status LED indicator
- Hardware write protection for system security
- Standard ATA command support

Model	m100P	m100U
Capacity	16 / 32GB	2GB ~ 8GB
Interface	PCI Express mini Card	
Protocol	PCI Express	USB
Power Requirement	DC 3.3V	
Power Consumption	<380mA (max.)	95mA (typ.)
Sequential Read (Est.)	95MB/sec	30MB/sec
Sequential Write (Est.)	70MB/sec	20MB/sec
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)	
Wear Leveling	Global Wear-Leveling	
Flash Technology	SLC NAND	SLC/MLC NAND
ECC	8 / 15-bit BCH	14 / 30-bit BCH
Dimension (mm)	30.0 x 51.0 x 8.5	30.0 x 26.8 x 4.85

Industrial CompactFlash

CompactFlash Solution

Industrial CF series is CompactFlash storage card based on Flash memory controller technology. This card complies with CompactFlash specification. It is suitable for data storage memory working on IPC or other electric equipment.

This product complies ATA standard interface and is suitable for data storage media and code storage device for embedded system and boot disk.

This industrial CompactFlash card is equipped with NAND type SLC Flash memory. By using SLC Flash memory, it is able to provide high reliability and high performance for sophisticated system applications.

With up-to-date small form factor, industrial CF card can be installed on portable device or embedded platform.



Ares Series

Gaia Series

Hi-Speed Series

Model	Industrial CompactFlash Card		
Capacity	1GB ~ 32GB	128MB ~ 16GB	128MB ~ 8GB
Power Requirement	DC 3.3V or DC 5.0V		
Interface	50PIN CFA interface		
Flash Technology	NAND type SLC Flash based		
Standard Compliance	CFA 4.1		CFA 3.0
Transfer Mode	PIO Mode: 0-6 MWDMA Mode: 0-4 UDMA Mode: 0-6	PIO Mode: 0-6 MWDMA Mode: 0-4 UDMA Mode: 0-4	PIO Mode: 0-4 MWDMA Mode: 0-2
Sequential Read (Est.)	Dual channel: 51MB/sec Single channel: 30MB/sec	Dual channel: 39MB/sec Single channel: 19MB/sec	10MB/sec
Sequential Write (Est.)	Dual channel: 37MB/sec Single channel: 25MB/sec	Dual channel: 28MB/sec Single channel: 14MB/sec	5MB/sec
Power Consumption	<193mA in operation	<219mA in operation	<46mA in operation
Operating Temperature	0°C to 70°C (Industrial), -40°C to 85°C (Wide Temperature)		
ECC	24 bits correction per 1024 Bytes, BCH ECC	4 symbols correction per 512 Bytes, RS-ECC	6 Bytes correction per 512 Bytes, RS-ECC
Wear Leveling	Global Wear-Leveling		
Dimension (mm)	36.4 x 42.8 x 3.3		
Weight	<12g		

Product Features

- CompactFlash™ specification 4.1 version compliant
- Following type I CompactFlash™ storage card dimensions
- PC card ATA protocol compatible
- Support ATA SMART function
- Support PIO Mode 6, Multi word DMA Mode 4, and Ultra DMA Mode 4
- True IDE mode compatible
- High reliability with robust Error-Correction
- Low power consumption
- Capable operating as boot disk or code storage device for embedded operating system
- Data storage device with capacity up to 16GB
- Voltage 3.3V or 5.0V operation



Model	CFast Card
Capacity	4GB ~ 16GB
Power Requirement	DC 3.3V
Interface	7+17PIN CFast interface
Flash Technology	NAND type SLC Flash based
Standard Compliance	CFast 1.0 compliance
Transfer Mode	SATA 3.0Gbps
Sequential Read (Est.)	106MB/sec
Sequential Write (Est.)	100MB/sec
Power Consumption	<429mA in operation
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)
ECC	15 bits correction per 512 Bytes, BCH ECC
Dimension (mm)	36.4 x 42.8 x 3.6
Weight	<13.5g

Reliability Test

Operating Humidity	10% to 95% (30°C Max. Wet Bulb Temp)
MTTF	2,000,000 hours
Inserted Durability Test	Testing Condition: 3sec/cycle – Repeated Plug/Unplug 10,000 cycles
Vibration	Sine (Non-op) : 15Grms, 10 ~ 2000Hz, Random Vibration (op): 6Grms, 10~500Hz
Drop	75cm height

As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, megabit per second (Mb/s) = one million bits per second, and gigabit per second (Gb/s) = one billion bits per second.

Industrial SD/SDHC Card

SD / SDHC Solution

The CoreSolid Storage industrial SD/SDHC memory card adopts Flash memory technology and content protection mechanism. It has higher capacity and can work on wide range of temperature, -40°C to 85°C, with high performance and good reliability. The CoreSolid Storage SD/SDHC memory card complies with SDMI standard which can protect your content to be free from unauthorized download. It also offers a write-protect switch beside the edge and uses mutual authentication with cipher algorithm to prevent the content stored in the card from illegal usage.

The CoreSolid Storage industrial SD/SDHC memory card conforms to SD specifications 3.0, so it supports two kinds of communication protocols: SD and SPI, for different applications. Moreover, the CoreSolid Storage SD/SDHC memory card offers SLC to meet the requirement of high endurance SD card from the market. The CoreSolid Storage SD/SDHC memory card is also fit for portable devices, such as Gaming, ebook and embedded platform industries.

Product Features

- Compatible with SD 3.0
- Support SD Mode and SPI Mode
- Built-in hardware ECC function
- Equip NAND Flash SLC chips
- Wear-leveling and Block Management
- Supports Auto Standby and Sleep Mode
- Support wide temperature operating

Model	Industrial SD / SDHC Card
Capacity	128MB ~ 8GB
Power Requirement	DC 3.3V
Interface	SD Compliance
Flash Technology	NAND type SLC Flash based
Standard Compliance	SD 3.0, 4GB: SDHC class 10
Transfer Mode	SD Bus Mode and SPI Bus Mode
Sequential Read (Est.)	19MB/sec
Sequential Write (Est.)	17MB/sec
Power Consumption	<75mA
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)
ECC	24 bits correction per 1024 Bytes
Wear Leveling	Global Wear-Leveling
Dimension (mm)	32.0 x 24.0 x 2.1
Weight	<2.5g



Reliability Test

Operating Humidity	10% to 95% (30°C Max. Wet Bulb Temp)
MTTF	2,000,000 hours
Inserted Durability Test	Testing Condition: 3sec/cycle – Repeated Plug/Unplug 10,000 cycles
Vibration	Sine (Non-op) : 15Grms, 10 ~ 2000Hz, Random Vibration (op): 6Grms, 10~500Hz
Drop	75cm height

As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, megabit per second (Mb/s) = one million bits per second, and gigabit per second (Gb/s) = one billion bits per second.

Solid State Disk

SATA Solution

CoreSolid Storage 2.5" SSD provides rugged and cost effective Flash memory drive and solution to industrial applications, the global wear leveling with 4 symbols RS-ECC was built in SSD to achieve high data reliability. A smart function called FlashMonitor™ is supporting SSD to give the entire Flash drive life forecast. System designer and system users can get early warning on disk failure. Each unit we manufacture is run through exhaustive inspections and quality tests, ensuring our highest quality standard in the industry.

The low power consumption of SSD lets you program your system overall power with maximum efficiency. There is no extraordinary power and thermal dissipation can be found from Flash drive when working on ultra low temperature environment.

CoreSolid Storage products have been designed into many highly sophisticated embedded system used in different industrial platforms today.

Product Features

- 1.8 & 2.5 SATA form factor with Serial ATA standard interface connector
- Serial ATA interface standard 2.6 Gen.2 (3.0Gbps) is supported
- High performance and reliability
- Robust Error-Correction
- Low power consumption
- Voltage 3.3V/5.0V operation



Gaia Series

Model	2.5" SATA 3.0Gbps SSD
Capacity	512MB ~ 32GB
Power Requirement	DC 5.0V
Interface	7+15PIN SATA interface
Flash Technology	NAND type SLC Flash based
Standard Compliance	SATA Standard 2.6 Gen.2 (3.0Gbps)
Transfer Mode	SATA 3.0Gbps
Sequential Read (Est.)	Dual channel: 39MB/sec Single channel: 19MB/sec
Sequential Write (Est.)	Dual channel: 28MB/sec Single channel: 14MB/sec
Power Consumption	<163mA in operation
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)
ECC	4 symbols correction per 512 Bytes, RS-ECC
Wear Leveling	Global Wear-Leveling
Dimension (mm)	100.5 x 69.8 x 9.5
Weight	<60g

Ares Series

Model	2.5" SATA High Speed SSD
Capacity	32GB ~ 256GB
Power Requirement	DC 5.0V
Interface	7+15PIN SATA interface
Flash Technology	NAND type MLC Flash based
Standard Compliance	SATA Standard 2.6 Gen.2 (3.0Gbps)
Transfer Mode	SATA 3.0Gbps
Sequential Read (Est.)	252MB/sec
Sequential Write (Est.)	205MB/sec
Power Consumption	<252mA in operation
Operating Temperature	0°C to 70°C (Industrial)
ECC	24 bits correction per 1024 Bytes, BCH ECC
Wear Leveling	Global Wear-Leveling
Dimension (mm)	100.5 x 69.8 x 9.5
Weight	<70g

Reliability Test

Operating Humidity	10% to 95% (30°C Max. Wet Bulb Temp)
MTTF	2,000,000 hours
Inserted Durability Test	Testing Condition: 3sec/cycle – Repeated Plug/Unplug 10,000 cycles
Vibration	Sine (Non-op) : 15Grms, 10 ~ 2000Hz, Random Vibration (op): 6Grms, 10~500Hz
Drop	75cm height

As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, megabit per second (Mb/s) = one million bits per second, and gigabit per second (Gb/s) = one billion bits per second.

Solid State Disk

PATA Solution

CoreSolid Storage designed ZIF Solid State Disk(SSD) is the storage device based on NAND Flash memory technology. This product complies ATA standard interface and is suitable for data storage media and code storage device for embedded system and boot disk. 1.8" ZIF SSD enables to achieve better operation performance for IDE(ATA) interface devices.

With up-to-date small form factor, the applicable appliance can add or install ZIF storage device on its portable device or complete set.

Product Features

- Small form factor with ZIF connector that is capable for flat cable in 0.2mm thickness
- High performance and reliability
- Noiseless and stable installation to system
- Operating voltage 3.3V
- Compliance with ATA interface
- Support ATA command security feature set
- Support SMART function
- Operating as boot disk
- Data storage device up to 32GB
- Code storage device for embedded operating system
- Low power consumption and high booting speed
- Steel housing material



CoreSolid Storage designs 1.8" / 2.5" IDE Solid State Disk(SSD) is the storage device based on NAND Flash memory technology. With standard 1.8" / 2.5" disk form factor, the applicable appliance can add or install the device in standard PC or complete set.



Gaia Series

Model	1.8" IDE	2.5" IDE
Capacity	4GB ~ 32GB	512M ~ 32GB
Power Requirement	DC 5.0V	
Interface	Standard IDE(ATA) interface	
Flash Technology	NAND type SLC Flash based	
Standard Compliance	ATA standard	
Transfer Mode	PIO Mode: 0-4 MWDMA Mode: 0-2 UDMA Mode: 0-4	
Sequential Read (Est.)	Dual channel: 39MB/sec Single channel: 19MB/sec	
Sequential Write (Est.)	Dual channel: 28MB/sec Single channel: 14MB/sec	
Power Consumption	<120mA in operation	
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)	
ECC	4 symbols correction per 512 Bytes, RS-ECC	
Wear Leveling	Global Wear-Leveling	
Dimension (mm)	60.0 x 70.0 x 7.0	100.0 x 69.85 x 8.45
Weight	<22g	<62g

Reliability Test

Operating Humidity	10% to 95% (30°C Max. Wet Bulb Temp)
MTTF	2,000,000 hours
Inserted Durability Test	Testing Condition: 3sec/cycle – Repeated Plug/Unplug 10,000 cycles
Vibration	Sine (Non-op) : 15Grms, 10 ~ 2000Hz, Random Vibration (op): 6Grms, 10~500Hz
Drop	75cm height

As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, megabit per second (Mb/s) = one million bits per second, and gigabit per second (Gb/s) = one billion bits per second.

Ares Series

Model	40PIN ZIF	40PIN ZIF (barebone)
Capacity	4GB ~ 32GB	
Power Requirement	DC 3.3V	
Interface	40PIN ZIF (ATA) interface	
Flash Technology	NAND type SLC Flash based	
Standard Compliance	ATA Standard	
Transfer Mode	PIO Mode: 0-6 MWDMA Mode: 0-2 UDMA Mode: 0-5	
Sequential Read (Est.)	51MB/sec	
Sequential Write (Est.)	37MB/sec	
Power Consumption	<193mA in operation	
Operating Temperature	0°C to 70°C (Industrial) -40°C to 85°C (Wide Temperature)	
ECC	24 bits correction per 1024 Bytes, BCH-ECC	
Wear Leveling	Global Wear-Leveling	
Dimension (mm)	71.00 x 54.00 x 5.00	70.60 x 53.60 x 2.00
Weight	<27.5g	<12.6g