

PRODUCT CATALOG

Embedded Storage & Memory Solutions



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INNOVATION AND QUALITY FOR MORE THAN 35 YEARS



PATRIOT GROUP

ACPI is one of the leading brands under the umbrella of Patriot Group, a technology company founded in San Francisco, USA, in 1985. Patriot Group is dedicated to becoming the preferred brand in the tech industry, with a high commitment to quality and exceptional customer service. The group designs, develops, manufactures, and markets high-performance memory and storage products and solutions that streamline user and technology data applications for various verticals.

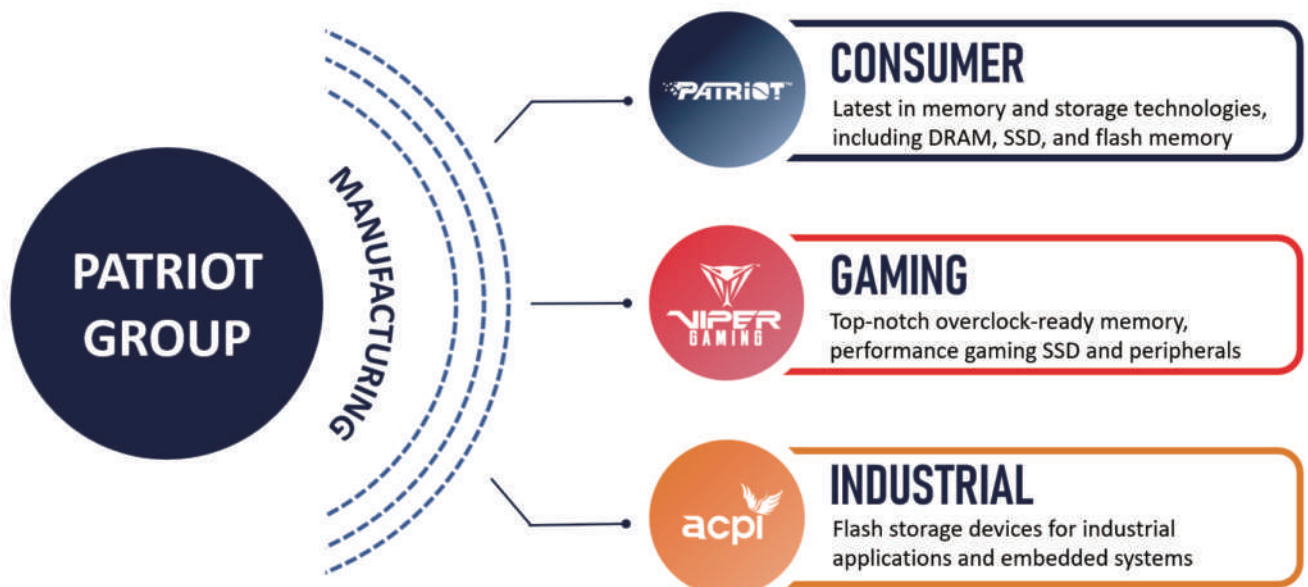
Patriot Group offers its innovative products and solutions across diverse industries and market segments through its three leading brands. ACPI provides reliable and high-quality flash storage devices for industrial applications and embedded systems, while Patriot, the mother corporation brand, offers the latest consumer memory and storage technologies, including DRAM, SSD, and flash memory. Viper Gaming features cutting-edge overclock-ready DRAM, high-performance SSD, and ultra-modern and sophisticated gaming peripherals that appeal to hardcore gamers.



ABOUT ACPI

ACPI is the leading provider of flash storage devices for industrial applications and embedded systems. Established in April 2003 and rebranded as ACPI in 2011, we have focused on delivering the best products in the B2B market. With extensive experience and profound knowledge in NAND flash memory, we offer a wide range of unique products for various markets.

All of our products undergo rigorous qualification in ACPI's Compatibility Labs and are then tested and approved by Tier 1 motherboard manufacturers and other industry partners. ACPI has always been committed to providing our customers with highly reliable products and the right solutions, along with professional services and qualified skills.



OUR REACH

Headquartered in New Taipei City, Taiwan, Patriot Group builds its global network with a manufacturing center and an R&D center in Taiwan, regional offices in Fremont, California, USA, and Rotterdam, the Netherlands. We sell our products and provide services in more than 100 markets.



- Founded in 1985
- Headquarters: New Taipei City, Taiwan
- R&D Center: New Taipei City, Taiwan
- Manufacturing Center: New Taipei City, Taiwan
- Regional Offices in Fremont (Americas), Rotterdam (EMEA), New Taipei City (APAC)
- Products sold in more than 100 countries



OUR ADVANTAGES

ACPI is dedicated to providing solutions that precisely meet the requirements of our customers for features, performance, and quality.

Long-Term Product Offering and Support

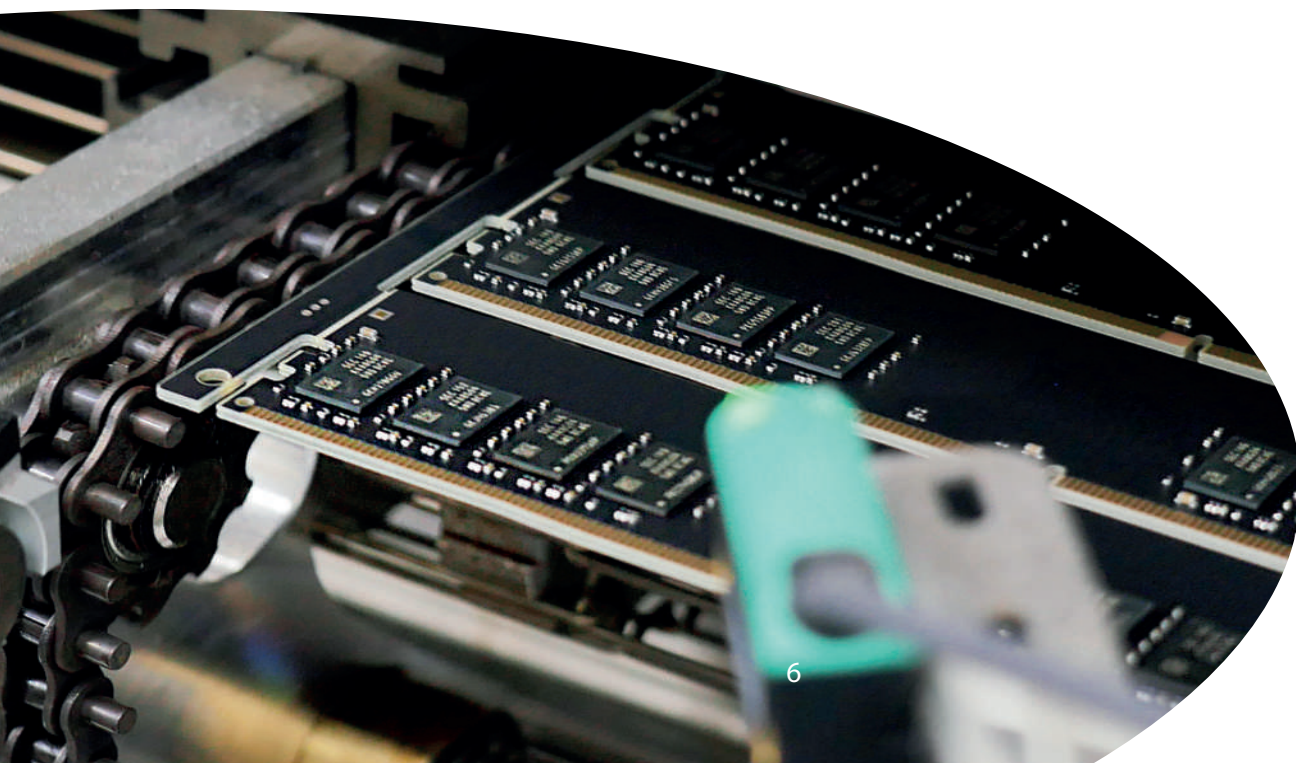
ACPI's product portfolio includes technologies that have long contributed to our customers' success, as well as the latest ones to be adopted. We are committed to providing our customers with comprehensive support, including high-quality products and services.

In-House Manufacturing for Optimized Quality Control

Patriot's in-house factory optimizes quality control in every step of manufacturing, from parts inspection to final production. This minimizes uncertainties in the pipeline and maximizes the final output. Our one-station in-house manufacturing also facilitates easier tracking of defective materials, compared to sourcing from various vendors.

Flexibility for Batch Production and Customization with Fixed BOM Solution

ACPI maintains flexibility for batch production and partners with our customers from the beginning of the project to develop customized solutions that best fit their needs. To ensure the performance of approved products, we also offer fixed BOM solutions for our customers.



APPLICATIONS

From surveillance and healthcare to networking and cloud computing, ACPI offers a wide range of DRAM and flash storage products that deliver high performance and reliability to various industrial applications.



Automotive Machines



ATM Machines



Cloud Computing



Workstations/
Data Servers



Digital Signage



Point of Sale
Machines



Vending
Machines



Medical
Equipment



Military
Computing



Mobile Devices



Panel PCs



Surveillance



Digital Video
Recorders



Embedded
Systems



Casino Gaming
Machines



Hand-held
Scanning Devices



Air Traffic
Control Devices

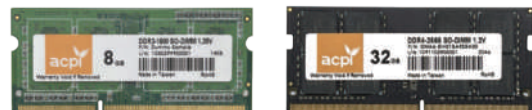


Performance
Notebooks

OUR PRODUCT PORTFOLIO

ACPI provides a diverse array of DRAM and flash storage solutions that deliver unparalleled levels of reliability and high-performance, catering to a range of industrial applications.

- Flash Storage
- Memory Cards
- USB Pen Drives
- DRAM Modules



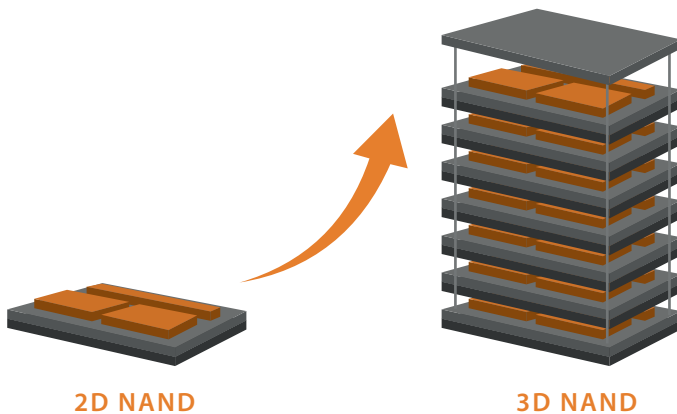
KEY TECHNOLOGIES

ACPI is committed to developing the most innovative and advanced products, utilizing cutting-edge technologies, to meet the diverse needs of various applications and industries.

BiCS5

Introduced in 2021, BiCS5 represents the latest iteration of NAND flash technology. Thanks to the relentless efforts of manufacturers over the past few years, this innovative solution offers superior performance, enhanced endurance, and larger capacity than its predecessors.

Compared to the single-layer 2D NAND chips like SLC, MLC, and pSLC, the latest BiCS5 technology leverages the advancements in NAND flash technology to stack up to 112 layers of 3D TLC NAND vertically in a single NAND flash chip. This impressive feat is a testament to the fast-paced development of the technology over the years.



- The latest BiCS5 technology, introduced in 2021, features better performance, superior endurance, and larger capacity than its predecessors.

NAND Type	112-Layer 3D TLC	96-Layer 3D TLC	64-Layer 3D TLC
Bit/Cell	3	3	3
Die Density	Excellent	Very Good	Good
Performance	Excellent	Very Good	Very Good
Endurance (P/E Cycles)	3K	3K	1K
Reliability (Data Retention)	Excellent	Excellent	Excellent
Power Consumption	Average	Average	Average
Cost/Gb	\$	\$\$	\$\$\$

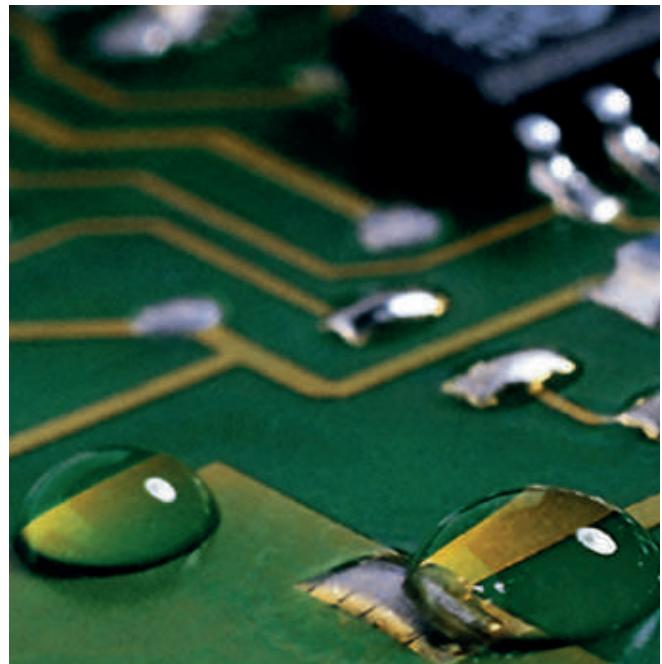
• Please note that P/E cycles may differ depending on the type of NAND flash, the testing conditions, and the manufacturing process node.

Conformal Coating



ACPI's products feature anti-moisture, anti-corrosion, and anti-stiction protection on our boards and components with 3M's Electronic Grade Coating (EGC) solution. This solution provides excellent repellency with an IPX3 rating against liquids such as water, hydrocarbons, silicones, and photoresists. The conformal coating enhances product reliability and extends device life.

Furthermore, the coating solution has a low level of volatile organic compounds (VOCs), is non-ozone depleting, and is RoHS compliant.

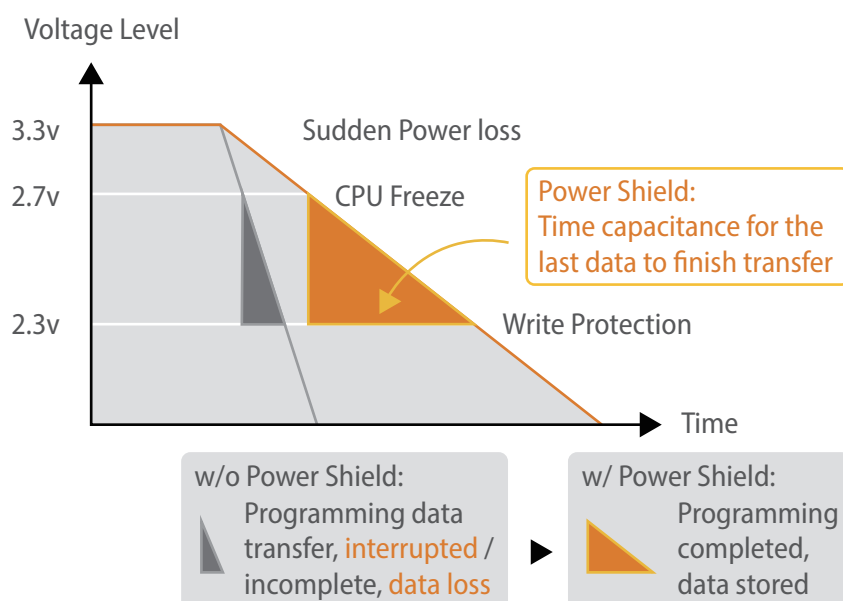


Power Shield



ACPI's Power Shield technology prevents internal NAND flash data loss in the case of a sudden power outage, protecting data from not being updated, incompatibility, corruption, or even total device failure.

When the external voltage drops to a certain level, the internal voltage detection circuit (VDT) of the controller then activates the Power Shield function to stop sending new write commands to the flash memory. The technology provides up to 220ms of power protection time, allowing data stored in the SSD's DRAM to complete the write cycle to flash storage.



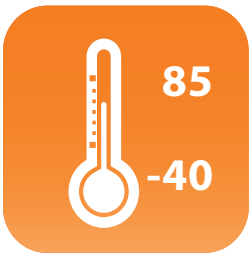
PRODUCT KEY FEATURES

ACPI's industrial-grade products are meticulously designed and engineered to withstand extreme working conditions, including shock, vibration, temperature fluctuations, power issues, and humidity.



Shock & Vibration Resistant

Ensuring stability is a critical specification for our products. To guarantee this, we conduct rigorous tests to ensure they can withstand high levels of shock and vibrations. Our products are tested to endure vibrations of up to 20G Peak at 7~2,000Hz, and shocks of up to 1,500G within 0.5ms.



Wide Temperature

ACPI's industrial storage are designed and tested to confirm effective operation between -40°C~ 85°C, making them suitable for industrial computer systems that are often exposed to extreme temperature conditions.



Superior Endurance

ACPI products feature a high MTBF, or Mean Time Between Failure, which is a measure of their reliability.



External DRAM Cache

The external DRAM Cache, working as data buffers, alleviates the deterioration of NAND flash and thus prolongs the life of an SSD by reducing the repeated erase/write cycles.



TRIM

The TRIM feature works by actively deleting invalid data from the blocks, which helps to maintain the write performance at its full potential. As a block must be erased before it can be reprogrammed, TRIM improves write performance by proactively erasing blocks that contain invalid data. This allows the SSD to write new data without first having to perform a time-consuming erase command.



S.M.A.R.T.

Standing for “Self-Monitoring Analysis and Reporting Technology”, the S.M.A.R.T. technology provides indicators of drive healthiness and potential disk problems. ACPI’s Flash Health Monitors software tool provides users with an easy-to-use interface that effectively helps monitor the healthiness of the Flash device, acting as a lifeguard and giving users enough time for preparation to do necessary data backups.



Power Shield

ACPI’s Power Shield technology safeguards against internal NAND flash data loss caused by unexpected power outages. This ensures that data remains updated, compatible, and free from corruption, and prevents device failure.



Write Protection

With the write protection feature you can easily safeguard the data stored on your flash device by triggering the read only function.

FLASH STORAGE FEATURE COMPARISON MATRIX

	SSD					CF	CFAST	DOM			USB
	M.2 PCIe	M.2 SATA	2.5"	Half Slim	mSATA			SATA	PATA	USB	
	M2PDD M2PCR11 XM2P411 XM2N411 XM2N413	M2SCF11 M2SCF1V M2SCQ M2SCR M2SCT	SED2F111 SED2F1V SED2Q11 SED2T	HSS2F HSS2T	MSS4F1V MSS4FV MSS4Q MSS4T	ECF7D ECF71 ECF7J ECF7K	CFS3F CFS3F111 CFS3F1V	SDM0CU SDM0F SDM0F111 SDM0QU SDM0TU	EDM64 EDM6D EDM54	UDM8S UDM9S	UFP9S
Shock & Vibration Resistant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wide Temperature	△	△	△	△	△	✓	✓	△	✓	✓	✓
MTBF	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
External DRAM Cache	△	△	△	△	△	✗	✗	✗	✗	✗	✗
TRIM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
S.M.A.R.T.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
Power Shield	△	△	△	✗	△	△	△	△	✗	✗	✗
Write Protection	△	△	✗	✗	△	✓	△	△	✓	△	✗
SLC	✗	✗	△	△	△	✓	△	△	✓	✗	✗
MLC	△	△	△	△	△	△	✓	△	✗	✓	✓
pSLC	✗	△	△	△	△	△	✓	△	✗	✗	✗
3D TLC	✓	△	△	△	△	✗	✗	△	✗	✓	✓
3D pSLC	△	△	△	✗	△	✗	✗	✗	✗	✗	✗

✓ Default
 △ Partial Support
 ✗ Not Available

FLASH STORAGE

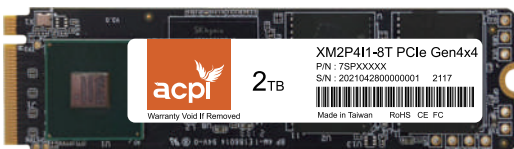
ACPI's proficiency in NAND Flash memory technology ensures the robustness and stability of its industrial-grade Flash Storage products. The products are available in a variety of flash memory form factors such as M.2, 2.5" SSDs, Half Slim, mSATA, SATA-DOM, PATA-DOM, USB-DOM, and USB Pen Drives, each designed to perform seamlessly in demanding environments. These Flash Storage products are well-suited for embedded systems with space constraints across a range of industries, including mobile computing, fanless systems, transportation, and gaming machines.

M.2

ACPI's M.2 series is available for both PCIe and SATA devices, ensuring low power consumption and efficient heat dissipation that maximizes reliability and endurance.

The M.2 PCIe series is designed with a PCIe interface and TLC NAND Flash in the standard M.2 form factor, offering high reliability and endurance through advanced error detection and correction (ECC) functions. This series supports PCIe Gen4 x4 and Gen3 x4 and is compliant with NVMe 1.3.

M.2 PCIe (NVMe) Gen4 x4



FEATURES

- Double-sided SSD module with DRAM
- PCIe Gen4 16Gb/s interface, up to 4 lanes
- Compliant with PCI Express Base Specification Rev. 4.0
- Compliant with NVMe Express Specification Rev. 1.4
- Supports L1.2 mode
- Supports Admin and NVM command set
- Advanced flash management, including wear-leveling, bad block management, and over-provisioning

Model Name	XM2P4I1-8T
NAND Flash Type	3D TLC
Interface	PCI Express Gen4 x4
Connector Type	PCIe
Capacity	1TB~2TB
Bytes per Sector	512Byte
Sequential R/W Performance (Max.)	7400/6700 MB/s
Operating Temp.	NT: 0°C~70°C
Dimension (LxWxH)	80.0x22.0x3.8mm
Warranty	3 Years (Limited)
Vibration (Operating)	3.1 Grms peak, 2~500Hz



FEATURES

- Single-sided SSD module with DRAM
- PCIe Gen4 16Gb/s interface, up to 4 lanes
- Compliant with PCI Express Base Specification Rev. 4.0
- Compliant with NVMe Express Specification Rev. 1.4
- Supports L1.2 mode
- Supports Admin and NVM command set
- Advanced flash management, including wear-leveling, bad block management, and over-provisioning



Shock &
Vibration Resistant



MTBF



External
DRAM Cache

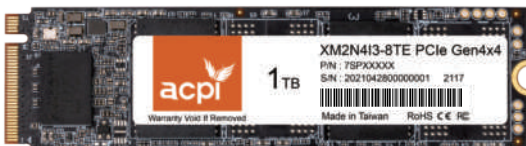


TRIM




S.M.A.R.T.

Model Name	XM2N411-8T
NAND Flash Type	3D TLC
Interface	PCI Express Gen4 x4
Connector Type	PCIe
Capacity	512GB ~ 2TB
Bytes per Sector	512Byte
Sequential R/W Performance (Max.)	7400/6700 MB/s
Operating Temp.	NT: 0°C~70°C
Dimension (LxWxH)	80.00x22.00x2.15mm
Warranty	3 Years (Limited)
Vibration (Operating)	3.1 Grms peak, 2~500Hz




FEATURES


- Single-sided SSD module
- PCIe Gen4 16Gb/s interface, up to 4 lanes
- Compliant with PCI Express Base Specification Rev. 4.0
- Compliant with NVMe Express Specification Rev. 1.4
- Supports L1.2 mode
- Supports Admin and NVM command set
- Advanced flash management, including wear-leveling, bad block management, and over-provisioning




Shock &
Vibration Resistant



MTBF



TRIM



S.M.A.R.T.

Model Name	XM2N413-8TE
NAND Flash Type	3D TLC
Interface	PCI Express Gen4 x4
Connector Type	PCIe
Capacity	512GB~2TB
Bytes per Sector	512GB ~ 1TB
Sequential R/W Performance (Max.)	5000/4800 MB/s
Operating Temp.	NT: 0°C~70°C
Dimension (LxWxH)	80.00x22.00x2.15mm
Warranty	3 Years (Limited)
Vibration (Operating)	3.1 Grms peak, 2~500Hz

M.2 PCIe (NVMe) Gen3 x4



Shock & Vibration Resistant



Wide Temperature



MTBF



TRIM



S.M.A.R.T.



Power Shield



Write Protection

FEATURES

- Supports real-time Full Disk Encryption (FDE) with Advanced Encryption Standard (AES)
- Supports Advanced LDPC (Low-Density Parity-Check) error correction technology for improved data accuracy and reliability
- RAID engine provides multi-page protection for NAND flash data
- Programmable driving strength to fit different types of NAND configurations

Series	M2PDD-8	M2PCRII-8
NAND Flash Type	3D TLC	
Interface	PCIe	
Capacity	512GB~2TB	64GB~1TB
Sequential R/W Performance (Max.)	3462/2899 MB/s	1926/1777 MB/s
External DRAM Cache	Yes (Optional)	
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C	
Dimension (LxWxH)	80.0x22.0x3.8mm	
Warranty	3 Years (Limited)	
Vibration (Operating)	20 G Peak, 7~2000Hz	
Power Shield	Support	
Write Protection	Support	-

M.2 SATA III Series



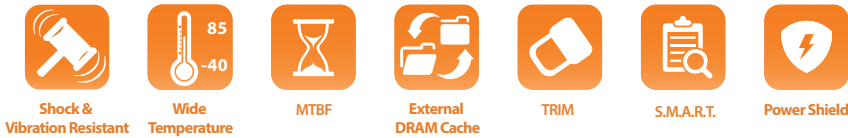
Shock & Vibration Resistant	Wide Temperature	MTBF	External DRAM Cache	TRIM	S.M.A.R.T.	Power Shield	Write Protection

FEATURES

- External DRAM cache buffer
- Management for long data retention
- Health Monitor Tool (customizable)
- Global wear-leveling and ECC
- Supports S.M.A.R.T. & Trim command
- Supports wide temperature

Series	M2SCFII-4	M2SCFIV-8
NAND Flash Type	MLC, pSLC	
Interface	SATAIII 6.0 Gb/s	
Connector Type	M.2 Module notch B+M	
Capacity	MLC: 16GB~256GB pSLC: 8GB~128GB	MLC: 64GB~512GB pSLC: 32GB~256GB
Sequential R/W Performance (Max.)	494/346 MB/s	500/421 MB/s
External DRAM Cache	Yes (Optional)	
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C	
Dimension (LxWxH)	42.0x22.0x3.8mm	80.0x22.0x3.8mm
Warranty	3 Years (Limited)	
Power Consumption (Max.)	1.5W	2.432W
Power Shield	-	Support
Write Protection	Support	

M.2 SATA III Series



FEATURES

- External DRAM cache buffer
- Management for long data retention
- Health Monitor Tool (customizable)
- Global wear-leveling and ECC
- Supports S.M.A.R.T. & Trim command
- Supports wide temperature

Series	M2SCQ-4	M2SCQ-6	M2SCQ-8	M2SCR	M2SCT
NAND Flash Type	3D TLC, 3D pSLC			3D TLC	
Interface	SATAIII 6.0 Gb/s				
Connector Type	M.2 Module notch B+M				
Capacity (Max.)	3D TLC: 32GB~1TB 3D pSLC: 20GB~160GB	3D TLC: 32GB~1TB 3D pSLC: 20GB~320GB	3D TLC: 64GB~2TB 3D pSLC: 20GB~320GB	3D TLC: 256GB~2TB	3D TLC: 128GB~2TB
Sequential R/W Performance (Max.)	563/516 MB/s	558/510 MB/s	563/512 MB/s	550/463 MB/s	522/494 MB/s
External DRAM Cache	Yes (Optional)				-
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C				NT: 0°C~70°C
Dimension (LxWxH)	42.0x22.0x3.8mm	60.0x22.0x3.8mm	80.0x22.0x3.8mm	2242: 42.0x22.0x3.8mm 2260: 60.0x22.0x3.8mm 2280: 80.0x22.0x3.8mm	2242: 42.0x22.0x3.8mm 2280: 80.0x22.0x3.8mm
Warranty	3 Years (Limited)				
Power Consumption (Max.)	2.362W				1W
Power Shield	Support				-
Write Protection	-				

2.5" SATA III SSD

ACPI's SSD series prioritize reliability and stability through our expertise in NAND Flash memory technology. With SATA III interfaces providing high dependability against shock and vibrations, our SSDs are ideal for industrial applications and space-restricted embedded systems, including mobile computing devices, fanless systems, transportation systems, and gaming machines.

2.5" SATA III



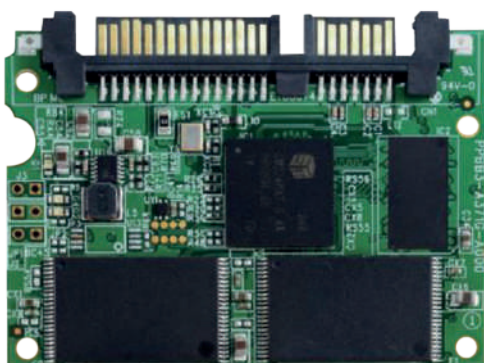
FEATURES

- External DRAM cache buffer
- Management for long data retention
- Health Monitor Tool (customizable)
- Global wear-leveling and ECC
- Supports S.M.A.R.T. & Trim command
- Supports wide temperature

Series	SED2FIII	SED2FIV	SED2QII	SED2T
NAND Flash Type	MLC, pSLC	SLC, MLC, pSLC	3D TLC, 3D pSLC	
Interface	SATAIII 6.0 Gb/s			
Connector Type	7+15pin			
Capacity	MLC: 64GB~1TB pSLC: 32GB~512GB	SLC: 4GB~128GB MLC: 64GB~512GB pSLC: 32GB~256GB	3D TLC: 32GB~2TB 3D pSLC: 10GB~320GB	
Sequential R/W Performance (Max.)	525/415 MB/s	495/367 MB/s	563/521 MB/s	
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C			NT: 0°C~70°C
Dimension (LxWxH)	100x69.85x7mm			
Warranty	3 Years (Limited)	SLC: 5Years (Limited) MLC / pSLC: 3 Years (Limited)	3 Years (Limited)	
Power Consumption (Max.)	4.5W	5W	6.4W	
Power Shield	Support	-	Support	
Write Protection	-			

HALF SLIM

Embedded Half Slim SSD Series



- 
Shock & Vibration Resistant
- 
Wide Temperature
- 
MTBF
- 
External DRAM Cache
- 
TRIM
- 
S.M.A.R.T.

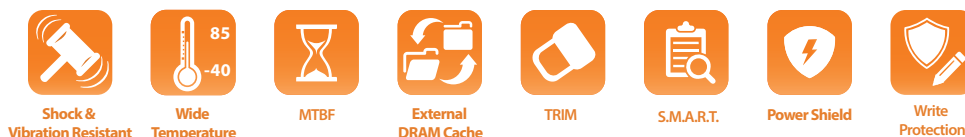
FEATURES

- JEDEC standard MO-297 dimension
- Noiseless and stable installation to system
- External DRAM cache buffer
- Global wear-leveling & ECC
- Management for long data retention
- Supports S.M.A.R.T & Trim Command
- Health Monitor Tool (customizable)

Series	HSS2F	HSS2T
NAND Flash Type	SLC, MLC, pSLC	3D TLC
Interface	SATAIII 6.0 Gb/s	
Connector Type	SATA	
Capacity	SLC: 4GB~32GB pSLC: 4GB~64GB MLC: 8GB~128GB	3D TLC: 128GB~2TB
Sequential R/W Performance (Max.)	491/177 MB/s	553/480 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C	NT: 0°C~70°C
Dimension (LxWxH)	54.1x39.83x3.98mm	
Warranty	SLC: 5 Years (Limited) pSLC / MLC: 3 Years (Limited)	3 Years (Limited)
Vibration (Operating)	20 G Peak, 7~2000Hz	

mSATA

Embedded mSATA SSD Series



FEATURES

- External DRAM cache buffer
- Management for long data retention
- Health Monitor Tool (customizable)
- Global wear-leveling & ECC
- Supports S.M.A.R.T & Trim Command
- Supports wide temperature

Series	MSS4FIV	MSS4FV	MSS4Q	MSS4T
NAND Flash Type	SLC, MLC, pSLC	MLC, pSLC	3D TLC, 3D pSLC	3D TLC
Interface	SATAIII 6.0 Gb/s			
Connector Type	mSATA			
Capacity	SLC: 4GB~32GB MLC: 8GB~128GB pSLC: 4GB~64GB	MLC: 64GB~512GB pSLC: 32GB~256GB	3D TLC: 32GB~2TB 3D pSLC: 20GB~320GB	128GB~2TB
Sequential R/W Performance (Max.)	485/300 MB/s	548/453 MB/s	560/510 MB/s	550/485 MB/s
External DRAM Cache	Yes (optional)			-
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C			NT: 0°C~70°C
Dimension (LxWxH)	50.95x30x3.9mm			
Warranty	SLC: 5Years (Limited) MLC / pSLC: 3 Years (Limited)	3 Years (Limited)		
Power Consumption (Max.)	1.973W	2.976W	2.5W	1.15W
Power Shield	Support			-
Write Protection	Support			-

SATA DOM / PATA DOM / USB DOM

ACPI provides industrial-grade SATA and PATA (IDE) DOM, undergoing extensive testing and offering extended temperature solutions to ensure operation under harsh environments. They are ideal solutions for ultra small embedded applications such as medical panel PCs, traffic control systems, rugged computers, and Point of Sale machines.

SATA DOM 1U SDM0CU Series



Shock & Vibration Resistant



Wide Temperature



MTBF



TRIM



S.M.A.R.T.

FEATURES

- High performance and 100% reliability
- Operating as boot disk
- Supports bad block management
- Compliant with SATA II 3.0 Gb/s
- Global wear-leveling & ECC
- Supports wide temperature

Series	1U SDM0CU Series
NAND Flash Type	SLC, MLC
Interface	SATAII 3.0 Gb/s
Connector Type	V: SATA 7 pin Vertical Type HL/HR: SATA 7 pin Horizontal Type
Capacity	SLC: 512MB~16GB MLC: 8GB~32GB
Sequential R/W Performance (Max.)	160/50 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C
Dimension (LxWxH)	V: 30.0x28.0x7.25mm HL/HR: 28.0x26.0x15.0mm
Warranty	SLC: 5Years (Limited) MLC: 3 Years (Limited)
Power Consumption (Max.)	0.6W

SATA DOM SDM0F Series



SATA DOM SDM0FIII Series





Shock &
Vibration Resistant



85
-40
Wide
Temperature



MTBF



TRIM



S.M.A.R.T.



Power Shield



Write
Protection

FEATURES

- Shell optional
- Supports SATA Revision 3.1
- ATA/ATAPI-8 and ACS-2 command set
- Supports Write Protection
- Supports Device Sleep (DevSleep)
- Supports S.M.A.R.T. & Trim command

FEATURES

- Supports Write Protection
- Supports SATA Revision 3.1
- Supports data quick erase
- Backward compatible with SATA1 (1.5Gb/s) and SATA2 (3Gb/s) interface
- Supports S.M.A.R.T. & Trim command

Series	SDM0F	SDM0FIII
Interface	SATA III 6.0 Gb/s	
Connector Type	SATA (7 pin)	
Capacity	SLC: 4GB~32GB MLC: 8GB~64GB pSLC: 4GB~32GB	MLC: 16GB~128GB pSLC: 32GB~64GB
Sequential R/W Performance (Max.)	349/101 MB/s	354/297 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C	
TRIM	Support	
S.M.A.R.T. (Heath Monitor)	Support	
MTBF	>2,000,000hrs	
Vibration (Operating)	20G Peak, 7~2000Hz	
Shock	1000G, 1.0ms	1500G, 0.5ms
Dimension (LxWxH)	V: 41.06x22.90x5.98mm HL/HR: 32.00x23.00x16.61mm	V: 41.06x16.86x6.10mm HL/HR: 32.33x14.86x18.85mm
Warranty	SLC: 5Years (Limited) MLC / pSLC: 3 Years (Limited)	3 Years (Limited)
Power Consumption (Max.)	1.25W	1.6W
Power Shield	-	Support
Write Protection	Support	

SATA DOM SDM0QU / SDM0TU Series



Shock & Vibration Resistant



MTBF



TRIM



S.M.A.R.T.



Power Shield



Write Protection

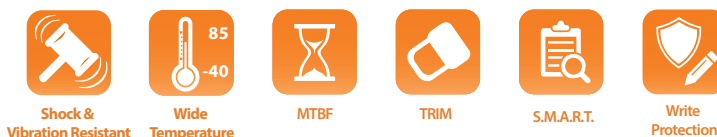
FEATURES

- Shell optional
- Excellent Power Shield function, data integrity protected under the circumstances of sudden power outage
- ATA8 security feature set
- Data endurance enhanced by internal data shaping technique
- Supports Device Sleep (DevSleep)
- Supports S.M.A.R.T. & Trim command

Series	SDM0QU	SDM0TU
Interface	SATA III 6.0 Gb/s	
Connector Type	SATA (7 pin)	
Capacity	3D TLC: 32GB~256GB	3D TLC: 128GB~512GB
Sequential R/W Performance (Max.)	520/478 MB/s	560/480 MB/s
Operating Temp.	NT: 0°C~70°C	
TRIM	Support	
S.M.A.R.T. (Heath Monitor)	Support	
MTBF	>2,000,000hrs	
Vibration (Operating)	20G Peak, 7~2000Hz	
Shock	1500G, 0.5ms	
Dimension (LxWxH)	V: 28.05x30.00x7.25mm HL: 26.01x27.80x17.75mm HR: 26.01x27.80x15.97mm	
Warranty	3 Years (Limited)	
Power Consumption (Max.)	1.595W	0.97W
Power Shield	Support	-
Write Protection	Support	-

PATA DOM 44 Pin Series

PATA DOM 40 Pin Series



FEATURES

- High performance and 100% reliability
- Compliant with PATA & IDE (ATA)
- Master and Slave, write protect switch
- Built-in global wear-leveling & ECC

FEATURES

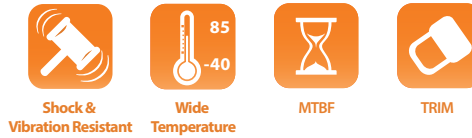
- High performance and 100% reliability
- Compliant with PATA & IDE (ATA)
- Master and Slave, write protect switch

Series	44 Pin		40 Pin
	EDM64	EDM6D	EDM54
NAND Flash Type	SLC		
Interface	PATA		
Connector Type	PATA 44 pin Vertical Type	PATA 44 pin Horizontal Type	PATA 40 pin Vertical Type
Capacity	512MB~4GB	512MB~8GB	128MB~4GB
Sequential R/W Performance (Max.)	35/29 MB/s		40/23 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C		
Dimension (LxWxH)	48.4x22.85x13.4mm	48x32.6x13.4mm	60.35x27.4x13.4mm
Warranty	5Years (Limited)		
Power Consumption (Max.)	0.072W		
Write Protection	Support		

USB DOM UDM8S Series



USB DOM UDM9S Series



- FEATURES**
- Supports Write Protection
 - Compliant with USB 2.0 specification Rev 2.0
 - Configurable ECC engine with correction capability up to 72-bit/1KB
 - Supports Windows ReadyBoost function
 - Horizontal design

- FEATURES**
- Supports Write Protection
 - Compliant with USB 3.0 specification Rev 1.0
 - Configurable ECC engine with correction capability up to 72-bit/1KB
 - Supports Windows ReadyBoost function
 - Supports USB 3.0 multi-level link power management

Series	UDM8S	UDM9S
NAND Flash Type	MLC, 3D TLC	
Interface/Connector Type	USB	
Capacity	MLC: 16GB~256GB 3D TLC: 32GB~512GB	MLC: 16GB~256GB 3D TLC: 32GB~512GB
Sequential R/W Performance (Max.)	37/34 MB/s	110/87 MB/s
External DRAM Cache	Yes (Optional)	
Operating Temp.	WT: -40°C~85°C NT: 0°C~70°C	
Dimension (LxWxH)	36.8x24.0x5.41mm (2.0 pitch) 36.8x24.0x8.41mm (2.54 pitch)	36.8x28.4x5.0mm
Warranty	3 Years (Limited)	
Power Consumption (Max.)	0.79W	0.82W

USB PEN DRIVES



Shock &
Vibration Resistant



Wide
Temperature



MTBF

FEATURES

- High performance and 100% reliability

Series	UFP9S
NAND Flash Type	MLC, 3D TLC
Interface	USB 3.0
Connector Type	USB 3.0 A Type
Capacity	MLC: 16GB~256GB 3D TLC: 32GB~512GB
Sequential R/W Performance (Max.)	101/85 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C
Dimension (LxWxH)	60.6x17.0x8.1mm
Warranty	3 Years (Limited)

SOFTWARE TOOLS

ACPI's expertise in flash properties has led to the development of two innovative software tools - the Flash Health Monitor and Flash Health Remoter. These user-friendly tools provide advanced health monitoring solutions for your storage devices, reflecting our commitment to product longevity. For reliable and efficient storage solutions, ACPI is the brand to trust.

Flash Health Monitor

The Flash Health Monitor is an advanced tool that offers a user-friendly interface for monitoring the detailed status of storage devices and sending reminders if any actions are needed.

FEATURES

- Device overview
- S.M.A.R.T information
- Message warning
- Notifications

ID	Description	Attrb Value	Value	Worst	Threshold
00/00	Critical Warning	0	Normal	0	0
01/11	Composite Temperature	39	39K/234 °C	0	0
03/13	Available Spare	100	100%	0	0
04/14	Available Spare Threshold	10	10%	0	0
05/15	Percentage Used	0	0	0	0
06/16	Endurance Group Critical Warning Summary	0	Normal	0	0
20/32	Data Units Read	4640682	4640682	0	0
30/48	Data Units Written	5682741	5682741	0	0
40/64	Host Read Commands	9079032	9079032	0	0
50/80	Host Write Commands	11108138	11108138	0	0
60/96	Controller Busy Time	178	178 min	0	0
70/112	Power Cycles	6	6	0	0
80/128	Power On Hours	4	4	0	0
90/144	Unsafe Shuttows	4	4	0	0
A0/160	Media and Data Integrity Errors	0	0	0	0
B0/176	Number of Error Information Log Entries	0	0	0	0
C0/192	Warning Composite Temperature Time	0	0	0	0
C4/196	Critical Composite Temperature Time	0	0	0	0
C8/200	Temperature Sensor 1	0	0K/273 °C	0	0
CA/202	Temperature Sensor 2	0	0K/273 °C	0	0
CC/204	Temperature Sensor 3	0	0K/273 °C	0	0
CE/206	Temperature Sensor 4	0	0K/273 °C	0	0
D0/208	Temperature Sensor 5	0	0K/273 °C	0	0
D2/210	Temperature Sensor 6	0	0K/273 °C	0	0
D4/212	Temperature Sensor 7	0	0K/273 °C	0	0
D6/214	Temperature Sensor 8	0	0K/273 °C	0	0
D8/216	Thermal Management Temperature 1 Transiti...	0	0	0	0
DC/220	Thermal Management Temperature 2 Transiti...	0	0	0	0
E0/224	Total Time For Thermal Management Temper...	0	0 s	0	0
E4/228	Total Time For Thermal Management Temper...	0	0 s	0	0

• Device overview

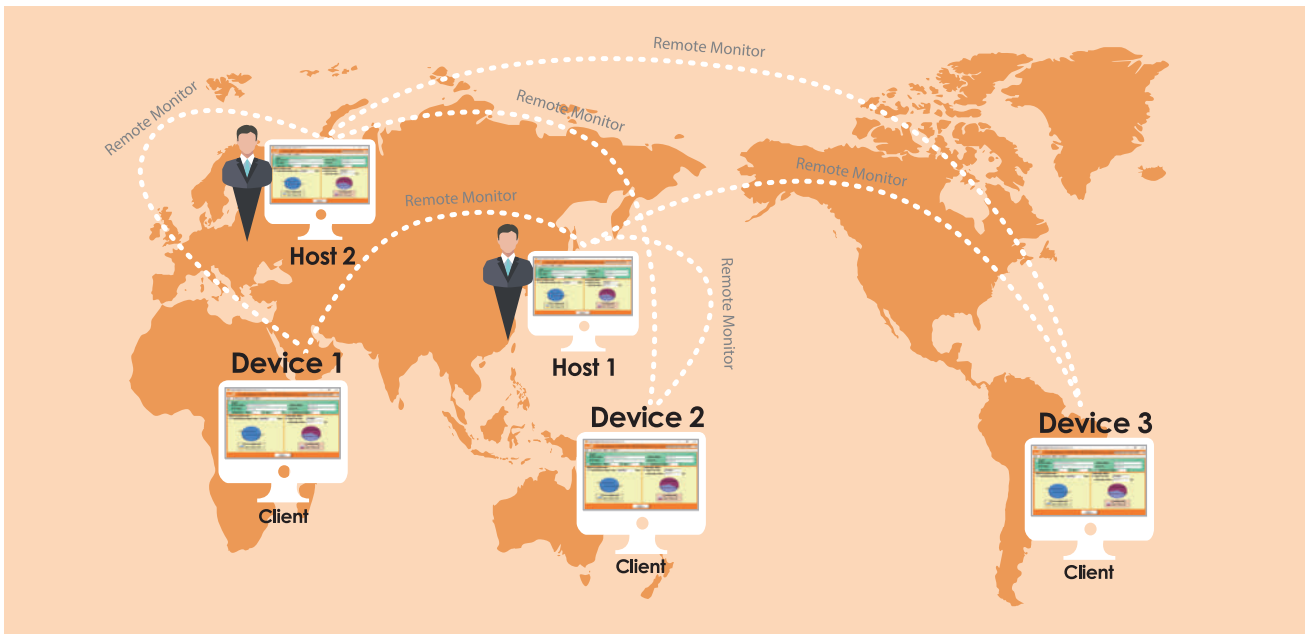
Flash Health Monitor configuration window showing settings for Message Warning, Temperature (Min: 0, Max: 70), Health Less Than (90%), Wear Leveling Count (80000), and Total Bytes Write (1287 TB). Includes a gauge for Flash Write Bytes and Remain Bytes Write.

Volume	ID	Capacity	File system	Start LBA	Hidden Sectors
E:	新增磁碟區	856.99GB	NTFS	2048	2048

• S.M.A.R.T. information

Flash Health Remoter

ACPI's Flash Health Remoter is an intelligent health monitoring management tool based on Internet of Things technology. It enables simultaneous monitoring from multiple hosts to many clients through a simple file execution, without requiring any software installation. With a user-friendly interface, it provides remote S.M.A.R.T. monitoring of your storage devices.



MEMORY CARDS

ACPI offers a range of industrial-grade Compact Flash (CF) and CFast Cards that comply with CF 6.0, CF 4.1, and SATA II/III standards. These cards come in various specifications to meet the specific needs of industrial users. Designed to deliver high reliability and safety, our CF and CFast Cards are ideal for a wide range of industrial applications, including medical instruments, robot control systems, embedded automation computers, and server applications.

CFAST



FEATURES

- Compliant with CFast 2.0
- Health Monitor tool (customizable)
- Supports S.M.A.R.T & Trim command
- Management for long data retention
- Global wear-leveling & ECC
- Supports wide temperature

Series	CFS3F	CFS3FIII	CFS3FIV
NAND Flash Type	SLC, MLC, pSLC		MLC, pSLC
Interface	SATAIII 6.0 Gb/s		
Connector Type	SATA 7+17pin		
Capacity	SLC: 4GB~32GB MLC: 8GB~128GB pSLC: 4GB~64GB		MLC: 64GB~256GB pSLC: 32GB~128GB
Sequential R/W Performance (Max.)	545/206 MB/s	535/195 MB/s	531/331 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C		
Dimension (LxWxH)	42.8x36.3x3.4mm		
Warranty	SLC: 5 Years (Limited) MLC / pSLC: 3 Years (Limited)		3 Years (Limited)
Power Consumption (Max.)	1.32W		2.07W
Power Shield	-		Support
Write Protection	-	Support	-

CF CARD

Shock &
Vibration ResistantWide
Temperature

MTBF



TRIM



S.M.A.R.T.



Power Shield

Write
Protection

FEATURES

- CFA 4.1/3.0/6.0 PCMCIA ver. 2.1
- Global wear-leveling & ECC
- Excellent Power Shield function
- PC Card ATA ver. 2.01
- Supports Write Protection
- Supports wide temperature

Series	ECF7D	ECF7K	ECF71	ECF7J
NAND Flash Type	SLC			SLC, MLC, pSLC
Interface	PATA			
Connector Type	50 pin CF connector			
Capacity	512MB~8GB	128MB~32GB	128MB~8GB	SLC: 4GB~32GB MLC: 8GB~128GB pSLC: 4GB~64GB
Sequential R/W Performance (Max.)	38/20 MB/s	66/48 MB/s	51/25 MB/s	113/31 MB/s
Operating Temp.	WT: -40°C~85°C NT: 0°C~70°C			
Dimension (LxWxH)	42.8x36.4x3.3mm			
Warranty	5 Years (Limited)			SLC: 5 Years (Limited) MLC / pSLC: 3 Years (Limited)
Power Consumption (Max.)	0.078W	0.5 W	0.6W	1.42W
Power Shield	-			Support
Write Protection	Support			

SD CARD

SD Card ESDB Series



microSD ESDB Series



FEATURES

- Adaptive power management control
- Built-in power-on reset, oscillator, PLL, voltage regulators, and voltage detector
- Global wear-leveling algorithm

FEATURES

- Compliant SD Card Specification 3.0
- Powerful LDPC ECC to enhance flash reliability and endurance
- Supports Content Protection for Recordable Media (CPRM)
- Supports password protection for cards

Series	SD Card ESDB	microSD ESDB
NAND Flash Type	SLC, MLC, pSLC, 3D TLC	
Capacity	SLC: 4GB~32GB MLC: 8GB~256GB pSLC: 4GB ~128GB 3D TLC: 32GB~512GB	SLC: 256MB~8GB MLC: 8GB~128GB pSLC: 4GB~128GB 3D TLC: 32GB~512GB
Sequential R/W Performance (Max.)	90/70 MB/s	100/95 MB/s
Operating Temp.	WT: -40°C~85°C, NT: 0°C~70°C	
Dimension (LxWxH)	24.0x32.0x2.1mm	11.0x15.0x1.0mm
Warranty	SLC: 5 Years (Limited) MLC / TLC / pSLC: 3 Years (Limited)	

DRAM MODULES

ACPI's industrial DRAM module technology is the result of integrating semiconductor industry expertise, ensuring optimal performance and functionality through reliable components. Our DRAM modules cover UB-DIMM, SO-DIMM, ECC DIMM, Server DIMM, providing a range of compatible and high-quality memory solutions.

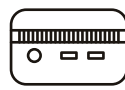
Applications



Desktop



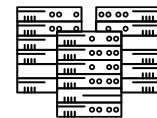
Notebook



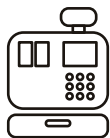
Mini PC



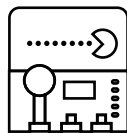
Printer



Server



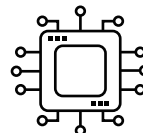
POS



Casino Gaming Machines



Networking



Embedded System



Cloud Computing

FEATURES

- Compliance with JEDEC standard
- Basic read/write function test
- Function test with mostly strict test condition
- High performance and reliability
- 100% module on system board testing
- RoHS compliant

Type	DDR2	DDR3	DDR4	DDR5
Speed (MT/s)	400/533/667/800	800/1066/1333/ 1600/1866	2133/2400/2666/ 2933/3200	4800/5600
Voltage	1.8V (1.7V~1.9V)	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	1.2V (1.14V~1.26V)	1.1V (1.067V-1.167V)
Chip Package	FBGA			
DIMM Pins	240pin DIMM 200pin SO-DIMM	240pin DIMM 204pin SO-DIMM	288pin DIMM 260pin SO-DIMM	288pin DIMM 262pin SO-DIMM
Module Type	UB-DIMM SO-DIMM	UB-DIMM SO-DIMM ECC DIMM ECC SO-DIMM RDIMM	UB-DIMM SO-DIMM ECC DIMM ECC SO-DIMM RDIMM	UB-DIMM SO-DIMM ECC DIMM ECC SO-DIMM
Density	512MB~2GB	1GB~8GB	2GB~32GB	8GB~48GB
Operating Temperature	Tcase 0°C~ +85°C (normal) / Tcase -40°C~+95°C (wide temperature)			
Storage Temperature	-55°C ~ +100°C			

STANDARD SOLUTION

Unbuffered DIMM



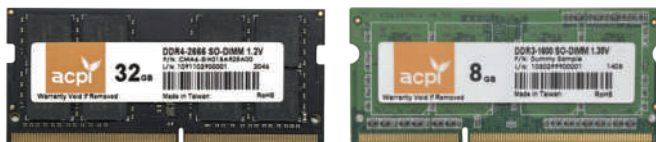
Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR2	400~800 MT/s	240	512MB~2GB	64bit	1.8V (1.7V~1.9V)	30.00mm
DDR3	800~1866 MT/s		1GB~8GB		1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	
DDR4	2133~3200 MT/s	288	2GB~32GB		1.2V (1.14V-1.26V)	31.25mm
DDR5	4800~5600 MT/s		8GB~48GB		1.1V (1.067V~1.167V)	

Low-Profile Unbuffered DIMM



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR3	800~1866 MT/s	240	1GB~8GB	64bit	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	18.80mm
DDR4	2133~3200 MT/s	288	2GB~32GB		1.2V (1.14V~1.26V)	

Unbuffered SO-DIMM



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR2	400~800 MT/s	200	512MB~2GB	64bit	1.8V ± 0.1V	30.00mm
DDR3	800~1866 MT/s	204	1GB~8GB		1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	
DDR4	2133~3200 MT/s	260	2GB~32GB		1.2V (1.14V~1.26V)	
DDR5	4800~5600 MT/s	262	8GB~48GB		1.1V (1.067V~1.167V)	

SERVER / WORK STATION SOLUTION

Unbuffered DIMM w/ ECC



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR3	800~1866 MT/s	240	1GB~8GB	72bit	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	30.00mm
DDR4	2133~3200 MT/s	288	4GB~32GB		1.2V (1.14V~1.26V)	31.25mm
DDR5	4800~5600 MT/s		8GB~48GB		1.1V (1.067V~1.167V)	

Low-Profile Unbuffered DIMM w/ ECC



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR3	800~1866 MT/s	240	1GB~8GB	72bit	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	18.80mm
DDR4	2133~3200 MT/s	288	4GB~32GB		1.2V (1.14V~1.26V)	

Unbuffered SO-DIMM w/ ECC



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR3	800~1866 MT/s	204	1GB~8GB	72bit	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	30.00mm
DDR4	2133~3200 MT/s	260	4GB~32GB		1.2V (1.14V~1.26V)	
DDR5	4800~5600 MT/s	262	8GB~48GB		1.1V (1.067V~1.166V)	

Registered DIMM w/ ECC



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR3	800~1866 MT/s	240	1GB~8GB	72bit	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	30.00mm
DDR4	2133~3200 MT/s	288	8GB~32GB		1.2V (1.14V~1.26V)	31.25mm

Low-Profile Registered DIMM



Type	Speed	Pin	Density	I/O Width	Operating Voltage	PCB Height
DDR3	800~1866 MT/s	240	1GB~8GB	72bit	1.5V (1.425V~1.575V) 1.35V (1.28V~1.45V)	18.80mm
DDR4	2133~3200 MT/s	288	8GB~32GB		1.2V (1.14V~1.26V)	



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