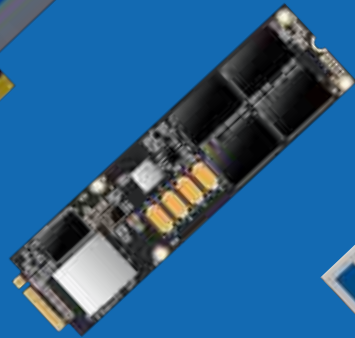# TRS-STAR

ADATA®

INDUSTRIAL PRODUCT CATALOG

RELIABLE
EMBEDDED
STORAGE
PROVIDER

PCIe Gen3x4 M.2 2280 SSD

DDR4 DRAM Module

3D NAND SSD

ADATA Strengths

Reliability & Consistency

- Quality control and assurance
- Extended and industrial temperature validation
- Professional testing array

Expertise

- Brand recognized globally
- Leading and innovative technologies
- In–house research & development

Technology Leadership

- Strong product development
- Extensive patent portfolio

Longevity Commitment

- Extended support for long product life cycles

Total Solution Service

- Responsive service
- Solution driven
- Full range of consultancy services

Customization

- Customization to meet special requirement.
- Electronic design and manufacturing services (EDMS)

Transport

Medical Application

Data Centers

Aerospace

Communication

Industrial Automation

Reliability You Can Depend On

Research & Development

Excellent quality is possible only when each and every variable in the product development process is controlled and measured. ADATA offers all-in-one, industrial-grade data storage and memory solutions with a vertically integrated supply chain, combined with the latest manufacturing processes.

Technical Support

With specialized system verification devices and the industry's most comprehensive technical support, our system ensures the most efficient solution for each partner.

Quality & Reliability

ADATA's internal investments in equipment ensure independent production. All products are 100% tested, with re-evaluations conducted for any problems that arise in the testing process. Such a comprehensive testing process is the secret behind the superior reliability of our products.

Experience

As a leader in SSD and DRAM storage technologies for more than 15 years, ADATA has never stopped developing, testing and improving production methods, hence the solid foundation for high-quality products.

Key Component Sorting

In-house Auto Sorting for NAND Flash IC

Auto function and I/O performance test

Basic P/E infant mortality screening out

NAND capacity guaranteed

Wide temperature NAND sorting

ADATA Sorting Criterions	Quality Check	Sorting Result
Exclude unstable IC	100%	✓ Implement on ADATA products
Exclude early retirement blocks		
Operate instruction verification	<100%	Eliminated

Automation

Auto SPI for Solder Paste Inspection

Auto AOI for PCBA Inspection

Auto Labeling for Traceability

Auto In-Circuit-Testing

Auto PCB Routing

Auto Picker

ATE Testing

Automatic Test Equipment

Open, Short and DC testing

Function testing

Voltage/Frequency Corner testing

Timing testing

Module ATE

ATE (Automatic Test Equipment) is used for DRAM specification testing. Testing capability equals that of semiconductor industry-level machinery. This guarantees ADATA modules meet DRAM specifications including function, DC, AC, timing, and frequency.

– Open, short, and continuous tests

– DC test (leakage, IDD, VREF)

– Function test (H/L VDD, refresh, self-refresh, write/read operation, data mask, OTF)

– Speed test (timing parameter check, data BGR check)

ADATA SSD Validation

Advances in technology have led to a jump in demand for NAND Flash SSDs. Compared to standard HDD, SSDs offer high speed, low power consumption and exceptional shock resistance. A variety of small form-factors are supported as well, making them far more flexible than HDDs. The evolution of production processes, however, has exposed NAND Flash's weakness in service life and stability. ADATA SSD Validation uses a rigorous testing process to guarantee SSD product functionality, performance and reliability. The validation consists of two parts: Functionality & Performance Test and Reliability Validation

Functionality & Performance Test

Quality products are made from quality components. Large numbers of reads and writes are carried out under harsh testing conditions over a long period of time in multi-tasking mode. ADATA not only selects the best quality components, but has also implemented over 500 tests in 19 categories of Performance test and Compatibility test for SSD products to ensure full compliance.

Reliability Validation

Apart from testing under high-low temperatures and ±10% voltage, ADATA has developed burn-in software to simulate errors under different usage. Random repeated testing is also carried out to ensure the reliability of SSD products. ADATA uses Reliability Demonstration Test (RDT) to calculate the Mean Time Between Failure (MTBF). This ensures the best product quality and a high level of reliability.
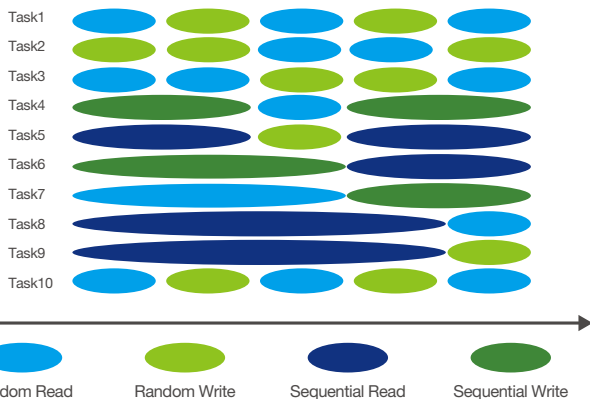
Total Solution Customer Service

Sales

Competitive price strategy

Professional team support

Efficient stock allocation

Global key accounting

Worldwide service

Product life cycle management

Active sampling process

Marketing information consultant

Pre-Sales

Design in ability

Joint qualification and development

Customization according to spec

Technology consultation

Validation testing support

(CMTL, JEDEC, SDA, etc.)

After-Sales

Failure analysis

Longevity programs

PCN process

Firmware updates / upgrades

Task1
Task2
Task3
Task4
Task5
Task6
Task7
Task8
Task9
Task10

Random Read   Random Write   Sequential Read   Sequential Write

Mean Time Between Failures (MTBF)

MTBF is the predicted elapsed time between

inherent failures of a system during operation.

Mean Time Between Failures

TIME

System Failures   System Failures

U.2 2.5" / Add-on card SSD

ADATA SR2000 series solid state drives implement 3D enterprise NAND Flash, providing higher storage capacity up to 11TB, power efficiency and rugged reliability, and superb transfer R/W rate. They also feature high reliability, and compatibility across diverse storage applications that require security, convenience, performance, and capacity. They are purpose-made for enterprise server, hyper scale computing, data center, big data analytics and embedded applications. This guarantees drives meet the exacting requirements of industrial and enterprise applications. SR2000 series SSDs undergo the strictest quality controls to provide industrial systems with the best choice for reliability and rugged performance. Furthermore, value-added ADATA SSD software provides dynamic over-provisioning(OP) adjustment, helping for different kinds of workload application.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
SR2000SP	–	●	●	●	●	●	●	●	●	–
SR2000CP	–	●	●	●	●	●	●	●	●	–

● Supported *Customized Solution

SR2000SP

SR2000CP

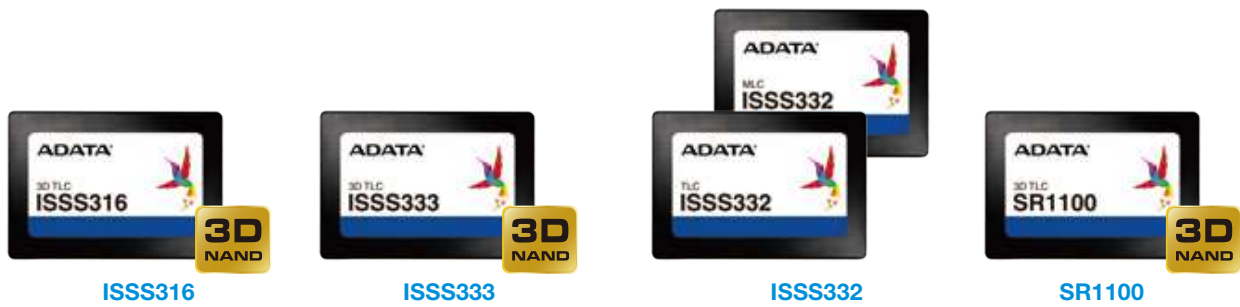| Model	SR2000SP	SR2000CP
Form Factor	U.2 2.5"	HHHL AIC
Capacity	2TB, 3.6TB, 4TB, 8TB, 11TB	2TB, 3.6TB, 4TB, 8TB, 11TB
Operating Voltage	12V	12V
Flash Type	3D eTLC	3D eTLC
Sequential Read (max.)	Up to 3.5GB/s	Up to 6.0GB/s
Sequential Write (max.)	Up to 3.5GB/s	Up to 3.8GB/s
Interface	PCIe Gen3x4	PCIe Gen3x8
Operating Temperature — Commercial	Ambient : 0°C to 35°C ｜ Case : 0°C to 70°C	0°C to 55°C
Operating Temperature — Industrial	—	—
Operating Humidity	25%-95% RH non-condensing	25%-95% RH non-condensing
Power Consumption (max.)	Idle: 7W; Operating: 21W	Idle: 8W; Operating: 21W
MTBF	>2,100,000 hours	>2,100,000 hours
Vibration Resistance	3.13G (5-800Hz)	3.13G (5-800Hz)
Shock Resistance	1500G/0.5ms,Half Sine Wave	1500G/0.5ms,Half Sine Wave
Dimensions (L x W x H)	100.20 x 69.85 x 14.8mm	167.65 x 56.15 x 18.74mm
S.M.A.R.T.	Supported	Supported
Write Protection	—	—
Quick Erase	—	—
H/W PLP Function	Supported	Supported
A+ SLC Mode	—	—
Features	·3D eTLC NAND Flash - higher capacity, durability ·Wide capacity range from 2TB to 11TB ·Consistently high IOPS and throughput ·S.M.A.R.T. data integrity protection ·Power failure protection ·Data path protection ·Hot plug supported ·AES 256-bit data encryption ·Supports Windows TRIM command ·Supports dynamic overprovisioning	·3D eTLC NAND Flash - higher capacity, durability ·Wide capacity range from 2TB to 11TB ·Up to 1 Million IOPS, 6GB/s throughput ·S.M.A.R.T. data integrity protection ·Power failure protection ·Data path protection ·AES 256-bit data encryption ·Supports Windows TRIM command ·Supports dynamic overprovisioning
Applications	Enterprise server, cloud and hyper scale computing, big data analytics, deep learning applications, high performance software-defined storage	

2.5" SATA SSD

ADATA 2.5 inch SATA-III 6Gb/s and Solid State Drives (SSD) use best quality Flash components for sturdy performance, and provide comprehensive and easy-to-use management tools to maximize usability. All products comply with JEDEC specifications, and feature low-power designs for industrial and enterprise applications. Support for NCQ and TRIM functions allow for higher IOPS and better sequential performance. ADATA SSDs also benefit from the company's advanced A+ Testing Methodology and SSD Validation, ensuring the highest quality, compatibility and reliability. Rigorous quality system guarantees longevity and stability for industrial and enterprise usage.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
ISSS333	●	●	●	●	●	●	●	●	●	●
ISSS332	●	●	●	●	●	●	●	●	●	●
ISSS314	●	●	●	●	●	●	●	●	●	●
ISSS312*	●	●	●	●	●	●	●	●	●	●
ISSS316	−	●	●	●	●	●	●	●	●	●
SR1100	●	●	●	●	●	●	●	●	●	●

● Supported *Customized Solution

ISSS316 **ISSS333** **ISSS332** **SR1100**

Model	ISSS316	ISSS333	ISSS332		SR1100
Form Factor	2.5"	2.5"	2.5"	2.5"	2.5"
Capacity	32GB~1TB	64GB~1TB	8GB~256GB	16GB~1TB	100GB~1920GB
Operating Voltage	5V	5V	5V	5V	5V
Flash Type	3D TLC	3D TLC	SLC	MLC	3D TLC
Sequential Read (max.)	540MB/s	560MB/s	560MB/s	560MB/s	560MB/s
Sequential Write (max.)	510MB/s	520MB/s	450MB/s	450MB/s	480MB/s
Interface	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps
Operating Temperature — Commercial	0°C to +70°C	0°C to +70°C	-10°C to +80°C	-10°C to +80°C	0°C to +70°C
Operating Temperature — Industrial	—	—	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Operating Humidity	5%~+95%RH non-condensing	5%~+95%RH non-condensing	5%~+95%RH non-condensing	5%~+95%RH non-condensing	5%~+95%RH non-condensing
Power Consumption (max.)	1.85W	3.96W	4.6W	4.6W	4.2W
MTBF	>2,000,000 hours	>2,000,000 hours	>2,000,000 hours	>1,500,000 hours	>1,500,000 hours
Vibration Resistance	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (80~2000Hz)	20G (10~2000Hz)
Shock Resistance	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave
Dimensions (L x W x H)	100.25 x 69.85 x 7mm	100.25 x 69.85 x 7mm	100.45 x 69.85 x 7mm	100.45 x 69.85 x 7mm	100.45 x 69.85 x 7mm
S.M.A.R.T.	Supported	Supported	Supported	Supported	Supported
Write Protection	—	—	—	—	—
Quick Erase	—	—	—	—	—
H/W PLP Function	—	—	Optional	Optional	Supported
A+ SLC Mode	Optional	Optional	—	—	—
Features	·NCQ Command set supported ·Trim Command supported ·DEVSLP support ·Supports LDPC ECC Engine ·Wear Leveling function ·H/W Power Detector and Flash Protection	·Complies with ATA-8 Standard ·NCQ Command set support ·Trim Command support ·DEVSLP support ·Supports LDPC ECC Engine ·Supports SLC Cache & DRAM Buffer ·Supports Data Shaping for increased data reliability ·Wear Leveling function ·H/W Power Detector and Flash Protection	·Complies with ATA-8 Standard ·NCQ Command set support ·Trim Command support ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection		·Complies with ATA-8 Standard ·NCQ Command set ·Trim Command support ·Supports LDPC ECC Engine ·Supports DRAM Buffer ·Supports Data Shaping for increased data reliability ·H/W Power Detector and Flash Protection ·Power Lost Protection ·End to End data protection
Applications	Transport, Personal Computing, Interactive Device, Server, Networking, Medical Application, Military, Aerospace				

M.2 SSD

The super-compact M.2 form factor enables solid state drives that are even smaller and more power-efficient than mSATA. ADATA makes M.2 SSDs in diverse capacities utilizing enterprise-class 3D NAND Flash. They are optimized for industrial and commercial applications, designed for extreme temperatures, and employ robust controllers. Depending on model, features include Power Loss Protection, TRIM, NCQ, DEVSLP and more for assured non-stop reliability.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
SR1010NS*	●	●	●	●	●	●	●	●	●	●
IM2P3388	●	●	●	●	●	●	●	●	●	●
IM2P33F8	–	●	●	●	●	●	●	●	●	●
IM2S3338	●	●	●	●	●	●	●	●	●	●
IM2S3168	–	●	●	●	●	●	●	●	●	●
IM2S3148*	–	●	●	●	●	●	●	●	●	●
IM2S3334	●	●	●	●	●	●	●	●	●	●
IM2S3328E*	●	●	●	●	●	●	●	●	●	●
IM2S33A8N*	–	●	●	●	●	●	●	●	●	●
IM2S3134N	●	●	●	●	●	●	●	●	●	●

● Supported *Customized Solution

IM2P33F8   **IM2S3168**   **IM2S3338**   **IM2S3328E**   **IM2S3334**   **IM2S3134N**

Model		IM2P33F8	IM2S3168	IM2S3338	IM2S3328E	IM2S3334	IM2S3134N
Form Factor		M.2 2280	M.2 2280	M.2 2280	M.2 2280	M.2 2242	M.2 2242
Capacity		128GB~512TB	32GB~1TB	64GB~1TB	16GB~512GB	64GB~512GB	64GB~256GB
Operating Voltage		3.3V	3.3V	3.3V	3.3V	3.3V	3.3V
Flash Type		3D TLC	3D TLC	3D TLC	MLC	3D TLC	MLC
Sequential Read (max.)		2050MB/s	540MB/s	560MB/s	560MB/s	560MB/s	550MB/s
Sequential Write (max.)		1600MB/s	510MB/s	520MB/s	450MB/s	520MB/s	320MB/s
Interface		PCIe Gen3x4	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps
Operating Temperature	Commercial	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃
	Industrial	—	—	—	-40℃ to +85℃	—	-40℃ to +85℃
Operating Humidity		5%~+95%RH non-condensing	5%~+95% RH non-condensing	5%~+95%RH non-condensing	5%~+95%RH non-condensing	5%~+95%RH non-condensing	5%~+95%RH non-condensing
Power Consumption (max.)		3.1W	1.85W	4W	2W	2.4W	2.64W
MTBF		>2,000,000 hours	>2,000,000 hours	>2,000,000 hours	>1,500,000 hours	>2,000,000 hours	>1,500,000 hours
Vibration Resistance		20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (80~2000Hz)	20G (10~2000Hz)
Shock Resistance		1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave
Dimensions (L x W x H)		80 x 22 x 2.25mm	80 x 22 x 3.5mm	80 x 22 x 3.5mm	80 x 22 x 3.5mm	42 x 22 x 3.5mm	42 x 22 x 3.5mm
S.M.A.R.T.		Supported	Supported	Supported	Supported	Supported	Supported
Write Protection		—	—	—	—	—	—
Quick Erase		—	—	—	—	—	—
H/W PLP Function		—	—	—	Optional	—	—
A+ SLC Mode		—	Optional	—	Optional	Optional	—
Features		·PCIe Gen3x4 ·NVMe 1.3 support ·Host Memory Buffer ·RAID Engine ·End-to-End Data Protection ·Slim single-sided design ·Wear Leveling function ·H/W Power Detector and Flash Protection	·NCQ Command set ·Trim Command ·DEVSLP support ·LDPC ECC Engine ·Supports SLC Cache ·Supports Data Shaping ·Wear Leveling ·H/W Power Detector and Flash Protection	·NCQ Command set ·Trim Command ·DEVSLP support ·LDPC ECC Engine ·Supports SLC Cache & DRAM Buffer ·Supports Data Shaping ·Wear Leveling ·H/W Power Detector and Flash Protection	·NCQ Command set ·Trim Command ·DEVSLP support ·Wear Leveling ·H/W Power Detector and Flash Protection	·3D TLC for large capacity ·LDPC ECC Engine ·Supports SLC Cache & DRAM Buffer ·NCQ Command set ·Trim Command ·DEVSLP support ·Wear Leveling function ·H/W Power Detector and Flash Protection	·NCQ Command set ·Trim Command ·DEVSLP support ·Wear Leveling ·H/W Power Detector and Flash Protection
Applications		Personal Computing, Servers, Data Centers, Surveillance, Networking, Ttransport					

mSATA SSD

ADATA mSATA SSDs are subjected to ADATA's advanced A+ Testing Methodology and SSD Validation to ensure that each SSD meets the exact requirements of industrial applications. This product series is designed with mSATA connector and mini PCIe form factor, complies with JEDEC (MO-300) specifications and can be used with desktops, thin clients, industrial computers and embedded products.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
IMSS332	●	●	●	●	●	●	●	●	●	●
IMSS316	—	●	●	●	●	●	●	●	●	●
IMSS314*	●	●	●	●	●	●	●	●	●	●
IMMS331	●	●	●	●	●	●	●	●	●	●
IXM37*	●	●	●	●	●	●	●	●	●	●
XM21E*	●	●	●	●	●	●	●	●	●	●
IXM35*	●	●	●	●	●	●	●	●	●	●
IMSS312*	●	●	●	●	●	●	●	●	●	●

● Supported *Customized Solution

IMSS332   **IMSS316**   **IMMS331**

Model	IMSS332		IMSS316	IMMS331	
Form Factor	mSATA (MO-300A)	mSATA (MO-300A)	mSATA (MO-300A)	mSATA mini (MO-300B)	mSATA mini (MO-300B)
Capacity	4GB~128GB	16GB~512GB	32GB~1TB	4GB~32GB	8GB~128GB
Operating Voltage	3.3V	3.3V	3.3V	3.3V	3.3V
Flash Type	SLC	MLC	3D TLC	SLC	MLC
Sequential Read (max.)	560MB/s	560MB/s	540MB/s	500MB/s	500MB/s
Sequential Write (max.)	430MB/s	450MB/s	530MB/s	260MB/s	300MB/s
Interface	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps
Operating Temperature — Commercial	-10℃ to +80℃	-10℃ to +80℃	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃
Operating Temperature — Industrial	-40℃ to +90℃	-40℃ to +90℃	—	-40℃ to +85℃	-40℃ to +85℃
Operating Humidity	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing
Power Consumption (max.)	2.6W	4.6W	3W	1.2W	1.2W
MTBF	>2,000,000 hrs	>1,000,000 hrs	>2,000,000 hrs	>2,000,000 hrs	>1,500,000 hrs
Vibration Resistance	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)
Shock Resistance	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	2000G/0.5ms, Half Sine Wave	2000G/0.5ms, Half Sine Wave
Dimensions (L x W x H)	50.95x 30 x 4.75mm	50.95 x 30 x 4.75mm	50.95 x 30 x 4.75mm	26.8 x 30 x 3.8mm	26.8 x 30 x 3.8mm
S.M.A.R.T.	Supported	Supported	Supported	Supported	Supported
Write Protection	Optional	Optional	—	—	—
Quick Erase	—	—	—	—	—
H/W PLP Function	Optional	Optional	—	—	—
A+ SLC Mode	—	Optional	Optional	—	—
Features	·Slim form-factor for even more space savings ·Supports Intel SRT (Smart Response Technology) ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection		·NCQ Command set ·Trim Command ·DEVSLP support ·LDPC ECC Engine ·Wear Leveling ·H/W Power Detector and Flash Protection	·Slim form-factor for even more space savings ·Supports Intel SRT (Smart Response Technology) ·Flash Management ·DEVSLP support ·Error Correcting Code (ECC) ·Wear Leveling ·H/W Power Detector and Flash Protection	
Applications	Interactive Device, Medical Application, Personal Computing				

Half Slim SSD

ADATA Half Slim SATA III 6Gbs SSDs follow industrial standards, JEDEC specifications, with quality validated through ADATA's advanced A+ Testing Methodology and SSD Validation. Compared to 2.5" SSDs, the Half Slim SSD series' form-factor allows for a broader range of industrial applications. The standard 22 PIN SATA interface (MO-297) can be used with servers, thin clients, industrial computers and embedded devices.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
ISM31	●	●	●	●	●	●	●	●	●	●

● Supported

ISM31

Model	ISM31	
Form Factor	SATA 22PIN (MO-297)	SATA 22PIN (MO-297)
Capacity	8GB~64GB	16GB~64GB
Operating Voltage	5V	5V
Flash Type	SLC	MLC
Sequential Read (max.)	160MB/s	500MB/s
Sequential Write (max.)	160MB/s	320MB/s
Capacity	SATA III 6.0Gbps	SATA III 6.0Gbps
Operating Temperature — Commercial	0°C to +70°C	0°C to +70°C
Operating Temperature — Industrial	-40°C to +85°C	-40°C to +85°C
Operating Humidity	5%~95% RH non-condensing	5%~95% RH non-condensing
Power Consumption (max.)	2W	2W
MTBF	>2,000,000 hrs	>1,000,000 hrs
Vibration Resistance	20G (80~2000Hz)	20G (80~2000Hz)
Shock Resistance	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave
Dimensions (L x W x H)	54 x 39 x 4mm	54 x 39 x 4mm
S.M.A.R.T.	Supported	Supported
Write Protection	—	—
Quick Erase	—	—
H/W PLP Function	—	—
A+ SLC Mode	—	—
Features	·Complies with ATA-8 Standard ·NCQ Command set ·TRIM Command ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling ·H/W Power Detector and Flash Protection	
Applications	Medical Application, Server, Networking, Industrial Control System, Personal Computing, Interactive Device	

DOM

ADATA DOM supports both SATA and USB interfaces. All products in the series are fully tested by ADATA's A+ Testing Methodology. Rigorous testing ensures outstanding quality and satisfies industrial computers' requirements for performance and reliability. ADATA DOM is compact in size, and is suitable for desktops, miniaturized computers, and embedded system implementation, making it the best choice for industrial control applications.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
USB DOM IUMU23C	–	●	●	–	–	–	●	●	–	–
USB DOM IUM3M	–	●	●	–	–	–	●	●	–	●
SATA DOM ISMS331	●	●	●	●	●	●	●	●	●	●

● Supported

IUMU23C　　　**IUM3M**　　　　　　**ISMS331**

Model	IUMU23C		IUM3M		ISMS331			
Form Factor	USB 10PIN (w/connector pitch: 2.54mm & 2.00mm)	USB 10PIN (w/connector pitch: 2.54mm & 2.00mm)	USB 10PIN (w/connector pitch: 2.54mm & 2.00mm)	USB 10PIN (w/connector pitch: 2.54mm & 2.00mm)	SATA 7PIN	SATA 7PIN	SATA 7PIN	SATA 7PIN
	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
Capacity	512MB~8GB	512MB~8GB	8GB~32GB	8GB~32GB	4GB~32GB	4GB~32GB	8GB~128GB	8GB~128GB
Operating Voltage	5V	5V	5V	5V	5V	5V	5V	5V
Flash Type	SLC	SLC	MLC	MLC	SLC	SLC	MLC	MLC
Sequential Read (max.)	19MB/s	19MB/s	Up to 27MB/s	Up to 27MB/s	260MB/s	260MB/s	300MB/s	300MB/s
Sequential Write (max.)	18MB/s	18MB/s	Up to 17MB/s	Up to 17MB/s	260MB/s	260MB/s	180MB/s	180MB/s
Interface	USB 2.0	USB 2.0	USB 2.0	USB 2.0	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps
Operating Temperature — Commercial	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃	0℃ to +70℃	-10℃ to +80℃	-10℃ to +80℃	-10℃ to +80℃	-10℃ to +80℃
Operating Temperature — Industrial	—	—	—	—	-40℃ to +90℃	-40℃ to +90℃	-40℃ to +90℃	-40℃ to +90℃
Operating Humidity	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing
Power Consumption (max.)	1W	1W	0.9W	0.9W	1.56W	1.56W	1.56W	1.56W
MTBF	>2,000,000 hrs	>2,000,000 hrs	>1,000,000 hrs	>1,000,000 hrs	>2,000,000 hrs	>2,000,000 hrs	>1,000,000 hrs	>1,000,000 hrs
Vibration Resistance	20G (80~2000Hz)	20G (80~2000Hz)	20G (80~2000Hz)	20G (80~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)
Shock Resistance	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave
Dimensions (L x W x H)	2.54mm: 36.9 x 26.6 x 5.0 mm	2.54mm: 45.4 x 26.6 x 5.3 mm	2.54mm: 36.9 x 26.6 x 8.7 mm	2.54mm: 45.4 x 26.6 x 5.3 mm	With Housing : 34.8 x 25.1 x 7mm	With Housing : 40.7 x 25.1 x 7mm	With Housing : 34.8 x 25.1 x 7mm	With Housing : 40.7 x 25.1 x 7mm
	—	—	2.0mm: 36.9 x 26.6 x 5.75 mm	—	Without Housing : 32.8 x 23.6 x 17mm	Without Housing : 38.6 x 23.6 x 8.7mm	Without Housing : 32.8 x 23.6 x 17mm	Without Housing : 38.6 x 23.6 x 8.7mm
S.M.A.R.T.	—	—	—	—	Supported	Supported	Supported	Supported
Write Protection	Supported	Supported	Supported	Supported	Optional	Optional	Optional	Optional
A+ SLC Mode	—	—	—	—	—	—	—	—
Features	·Available with standard 2.54/2.0mm pitch connectors ·Data read/write protection switch ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection		·Available with standard 2.54/2.0mm pitch connectors ·Data read/write protection switch ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection		·2 Types of connector design ·Connector latch design ·Self-diagnostics and flash protection ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power D etector and Flash Protection ·Provide Housing ed ·Supports H/W Write Protect Switch or Jumper			
Applications	Embedded Storage, Interactive Device, Networking, Medical Application							

CFast

ADATA CFast cards combine the form factor of a CF card with the high-speed SATA interface for both high reliability and secure operation. Combining these two industrial standards, devices using the CFast specification can replace existing hard drives and CF cards in applications that require small form factors and long lifespans. They are highly shock resistant, vibration resistant, and can withstand extreme temperatures from -40ºC to +85ºC. The ADATA CFast operates at a low 3.3 volts, and comes with a full range of features including S.M.A.R.T, Error Correcting Code (ECC), and Wear Leveling.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
ISC3E	●	●	●	▲	●	●	●	●	●	●
ICFS314	●	●	●	●	●	●	●	●	●	●
ICFS332*	●	●	●	●	●	●	●	●	●	●
ICFS312*	●	●	●	●	●	●	●	●	●	●

● Supported   ▲ By Request   *Customized Solution
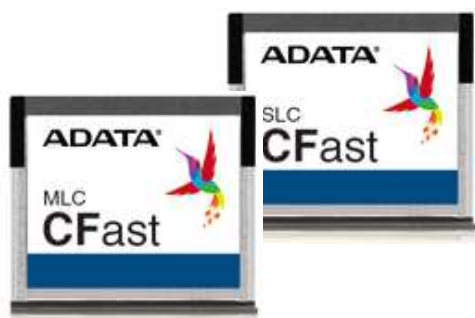
ISC3E

ICFS314

Model	ISC3E		ICFS314
Form Factor	7+17 pin SATA	7+17 pin SATA	7+17 pin SATA
Capacity	4GB~64GB	4GB~128GB	32GB~512GB
Operating Voltage	3.3V	3.3V	3.3V
Flash Type	SLC	MLC	3D MLC
Sequential Read (max.)	165MB/s	430MB/s	550MB/s
Sequential Write (max.)	170MB/s	120MB/s	520MB/s
Interface	SATA III 6.0Gbps	SATA III 6.0Gbps	SATA III 6.0Gbps
Operating Temperature — Commercial	0°C to +70°C	0°C to +70°C	-10°C to +80°C
Operating Temperature — Industrial	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Operating Humidity	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing
Power Consumption (max.)	1.1W	1.1W	2.17W
MTBF	>2,000,000 hrs	>1,000,000 hrs	>2,000,000 hrs
Vibration Resistance	20G (10~2000Hz)	20G (10~2000Hz)	20G (10~2000Hz)
Shock Resistance	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave
Dimensions (L x W x H)	36.4 x 42.8 x 3.6mm	36.4 x 42.8 x 3.6mm	36.4 x 42.8 x 3.6mm
S.M.A.R.T.	Supported	Supported	Supported
A+ SLC Mode	—	Optional	Optional
Features	·Compatible with CFast 2.0 specifications ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function · H/W Power Detector and Flash Protection		
Applications	Networking, POS System, Kiosk, Industrial Control, Personal Computing, Interactive Device, Gambling and Lottery Machine, Medical Application, Military, Aerospace		

Industrial CF

ADATA's industrial-grade CompactFlash card provides durability, reliability, safety and convenience all in one card. The form factor as well as the connector are highly suitable for embedded and industrial systems. ADATA's industrial CF cards come in both commercial (0°C to +70°C) and industrial (-40°C to +85°C) temperature ranges, providing long-term reliability for a broad range of applications. Functions supported include S.M.A.R.T, Error Correcting Code (ECC), and Wear Leveling.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
IPC17	●	●	●	–	–	–	●	●	–	●
IPC39	●	●	●	–	–	–	●	●	●	●

● Supported

IPC17

IPC39

Model	IPC17	IPC39
Form Factor	50 pin CF (ATA)	50 pin CF (ATA)
Capacity	512MB~8GB	8GB~128GB
Operating Voltage	3.3V / 5V	3.3V / 5V
Flash Type	SLC	MLC
Sequential Read (max.)	45MB/s	160MB/s
Sequential Write (max.)	25MB/s	25MB/s
Interface	PIO Mode 0~6	PIO Mode 0~6
	Multi-Word DMA Mode 0~4 Ultra DMA Mode 0~4	Multi-Word DMA Mode 0~4 Ultra DMA Mode 0~7
Operating Temperature — Commercial	0°C to +70°C	0°C to +70°C
Operating Temperature — Industrial	-40°C to +85°C	-40°C to +85°C
Operating Humidity	5%~95% RH non-condensing	5%~95% RH non-condensing
Power Consumption (max.)	0.5W	2W
MTBF	>2,000,000 hrs	>1,000,000 hrs
Vibration Resistance	20G (10~2000Hz)	20G (10~2000Hz)
Shock Resistance	1500G / 0.5ms, Half Sine Wave	1500G / 0.5ms, Half Sine Wave
Dimensions (L x W x H)	36.4 x 42.8 x 3.6mm	36.4 x 42.8 x 3.6mm
S.M.A.R.T.	—	Supported
Features	·Compliant with CF 4.0 specifications ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection	·Compliant with CF 6.0/4.0 specifications ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection
Applications	Networking, POS System, Kiosk, Industrial Control, Personal Computing, Interactive Device, Gambling and Lottery Machine, Medical Application, Military, Aerospace	

Industrial SD

ADATA's industrial-grade SD cards offer tremendous performance and superior transfer rates with low power consumption. They are suitable for removable storage applications that require security, convenience, and great performance. The industrial-grade temperature (-40°C to +85°C) range is suitable for demanding industrial environments that require high reliability. Industrial SD cards utilize premium components, and provide a number of enhanced features such as S.M.A.R.T, ECC, Wear Leveling, and Flash protection.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
IDC14*	●	●	●	—	—	—	●	●	—	●
ISDD336	●	●	●	—	—	—	●	●	—	●
ISDD361	●	●	●	—	—	—	●	●	—	●
IDC3B	●	●	●	—	—	—	●	●	—	●
IUDD336	●	●	●	—	—	—	●	●	—	●
IDU3A	●	●	●	—	—	—	●	●	—	●

● Supported *Customized Solution

| | **ISDD336** | **ISDD361** | **IDC3B** | **IUDD336** | **IDU3A** |

Model	**ISDD336**	**ISDD361**	**IDC3B**	**IUDD336**	**IDU3A**
Interface	SD 3.0	SD 2.0/3.0	SD 3.0	SD 3.0	SD 3.0
Capacity	16GB~256GB	256MB~16GB	8GB~256GB	16GB~128GB	8GB~64GB
Operating Voltage	3.3V ± 5%	3.3V ± 5%	DC 2.7V ~ 3.6V	3.3V ± 5%	DC 2.7V ~ 3.6V
Flash Type	3D MLC	SLC	MLC	3D MLC	MLC
Sequential Read (max.)	95MB/s	SD 2.0: 20MB/s, SD 3.0: 90MB/s	50MB/s	95MB/s	50MB/s
Sequential Write (max.)	90MB/s	SD 2.0: 16MB/s, SD 3.0: 60MB/s	10MB/s	90MB/s	10MB/s
Compatibility	SD2.0/3.0	SD2.0/3.0	SD 1.1/2.0/3.0	SD2.0/3.0	SD 1.1/2.0/3.0
Operating Temperature — Commercial	-25°C to +85°C	—	-25°C to +85°C	-25°C to +85°C	-25°C to +85°C
Operating Temperature — Industrial	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Operating Humidity	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing	5%~95% RH non-condensing
Power Consumption (max.)	0.95W	0.6W	0.95W	0.5W	0.5W
MTBF	>1,000,000 hrs	>2,000,000 hrs	>1,000,000 hrs	>1,000,000 hrs	>1,000,000 hrs
Vibration Resistance	20G (20~2000Hz)	30G (10~2000Hz)	20G (20~2000Hz)	20G (20~2000Hz)	20G (20~2000Hz)
Shock Resistance	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave	1500G/0.5ms, Half Sine Wave
Dimensions (L x W x H)	32 x 24 x 2.1mm	32 x 24 x 2.1mm	32 x 24 x 2.1mm	11 x 15 x 1mm	11 x 15 x 1mm
S.M.A.R.T.	Supported	Supported	Supported	Supported	Supported
Features	·Compliant with SD 3.0 specifications ·Supports SD and SPI modes ·Applicable for dual host voltage (3.3V) ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection	·Compliant with SD 1.1/2.0/3.0 specifications ·Applicable for dual host voltage (3.3V) ·BCH ECC engine ·Configurable ECC up to 24-bits(256MB~512MB)/40-bits(1GB~32GB) ·Enhanced ESD design ·Wear Leveling function	·Compliant with SD 3.0 specifications ·Supports SD and SPI modes ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection	·Compliant with SD 3.0 specifications ·Supports SD and SPI modes ·Applicable for dual host voltage (3.3V) ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection	·Compliant with SD 3.0 specifications ·Supports SD and SPI modes ·Supports Auto Standby and Sleep Mode ·Flash Management ·Error Correcting Code (ECC) ·Wear Leveling function ·H/W Power Detector and Flash Protection
Applications	GPS, Handheld Device, Video Recorder, High-end Digital Camera, Road Monitoring System	GPS, Handheld Device, Video Recorder, High-end Digital Camera, Road Monitoring System	GPS, Handheld Device, Video Recorder, High-end Digital Camera, Road Monitoring System	GPS, Handheld Device, Smartphone, Mobile Computer	GPS, Handheld Device, Smartphone, Mobile Computer

eMMC

The rapid growth of embedded applications and handheld mobile devices that require massive data transfer, fast response times, and reliable data storage means highly integrated memory solutions are required. The ADATA eMMC embedded memory uses industry-standard controllers as well as NAND Flash, and the specification is in compliance with JEDEC regulations. Apart from minimizing the space required on PCBs, the instantaneous data read/write performance of over 200 IOPS provides the best solution for multi-core processing and multi-tasking.

	Wide Temperature Support	ESD AND EMI Safe	Shock and Vibration Resistant	Lifetime Monitoring (LTM)	Secure Erase	Temperature Sensor	Power Fail Protection & Recovery	Wear Leveling	TRIM Support	Low Power Consumption
eMMC	●	—	—	—	●	—	—	●	●	●

● Supported   ▲ By Request

eMMC

Model	eMMC
Form Factor	153 Ball FBGA
Interface	eMMC 5.0
Pitch size	0.5/1mm Ball Pitch
Capacity	8GB~64GB
Operating Voltage	VCCQ 2.7~3.6; 1.7~1.95 VCC 2.7~3.6
Flash Type	MLC
Sequential Read (max.)	240MB/s
Sequential Write (max.)	80MB/s
Operating Temperature — Commercial	-25°C to +85°C
Operating Temperature — Industrial	—
Storage Temperature	-40°C to +85°C
Power Consumption (max.)	0.72W
Error Correcting Code	72bit/1KB
Dimensions (L x W x H)	153 Ball: 11.5 x 13 x 1.4mm (max)
Features	·Micro-integration solution to reduce circuit interconnections and boost performance ·Low power consumption
Applications	POS System, Advanced mobile device, Smartphones, Tablet PC, Smart Digital TV, Multimedia Player, In-vehicle Infotainment and GPS System.

DRAM Modules

ADATA Premier IPC DRAM Modules are designed for Networking, Servers and IPC systems. They are in compliance with JEDEC specifications and ISO 9001 standards. The Premier series utilizes FBGA (Fine ball grid array) integrated circuit packaging, which successfully reduces the operating temperature and data noise, providing the highest quality and signal integrity. ADATA Premier series offers a full range of memory modules to meet various requirements. ADATA is committed to deliver diversify, high quality, and reliable industry and enterprise standard memory that exceed your expectations.

Features

- Designed for optimized performance and reliability
- Every IC is verified by strict quality controls
- Low power consumption provides high efficiency
- Fast transmission bandwidth
- RoHS compliance

Applications

Server, Networking, Cloud Computing, Embedded Systems, Communication

Very Low Profile (VLP)

0.72"~0.74" height
Ideal for high density servers, embedded computing, and other space-constrained applications

Load Reduced (LR)

Supports higher densities than RDIMMs and contains a memory buffer (MB) chip
Ideal for memory-intensive applications in data centers, cloud computing and high-performance computing (HPC) environments

Wide Temperature

Extreme temperatures -40°C to +85°C
Ideal for applications that must ensure high performance in industrial environments

Error Correcting Code (ECC)

Error-detecting feature
Ideal for non-stop, 24/7 applications that require rugged durability and flawless stable operation

			Wide Temperature Support	Temperature Sensor	Low Power Consumption
IPC	DDR2	U-DIMM	—	—	—
		SO-DIMM	—	—	—
	DDR3	U-DIMM	●	●	●
		SO-DIMM	●	●	●
	DDR4	U-DIMM	●	●	●
		SO-DIMM	●	●	●
Server/ IPC	DDR3	VLP U-DIMM	—	●	●
		ECC U-DIMM	—	●	●
		VLP ECC U-DIMM	—	●	●
		ECC SO-DIMM	—	●	●
	DDR4	R-DIMM	—	●	●
		ECC U-DIMM	—	●	●
		VLP ECC U-DIMM	—	●	●
		ECC SO-DIMM	—	●	●

● Supported

DDR4 Benefits	More Efficient Up to 11% less power	More Speed 33% faster	More Density 2x capacity
	DDR4 (1.2V)	DDR4 2666+ MT/s	8Gb DDR4 Component

204/260-Pin SO-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	2GB	ADDS1600C2G11	1.35V
	4GB	ADDS1600W4G11	1.35V
	8GB	ADDS1600W8G11	1.35V
DDR4 2400	4GB	AD4S2400W4G17	1.2V
	4GB	AD4S2400J4G17	1.2V
	8GB	AD4S240038G17	1.2V
	16GB	AD4S2400316G17	1.2V
DDR4 2666	4GB	AD4S2666W4G19	1.2V
	8GB	AD4S266638G19	1.2V
	16GB	AD4S2666316G19	1.2V

Type	DDR3L SO-DIMM Non-ECC	DDR4 SO-DIMM Non-ECC	DDR4 SO-DIMM Non-ECC
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	204 Pin	260 Pin	260 Pin
Capacity	2GB/4GB/8GB	4GB/8GB/16GB	4GB/8GB/16GB
DRAM Configuration	256M x 8 512M x 8	512M x 8 / 512M x 16 1024M x 8	512M x 8 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	0°C to +85°C	0°C to +85°C	0°C to +85°C
Gold Finger Plating	3 or 30 micro inch	3 or 30 micro inch	3 or 30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

204-Pin Wide Temp SO-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	4GB	ADDI1600W4G11	1.35V
	8GB	ADDI1600W8G11	1.35V
DDR4 2400	4GB	AD4I2400W4G17	1.2V
	8GB	AD4I2400W8G17	1.2V
DDR4 2666	4GB	AD4I2666W4G19	1.2V
	8GB	AD4I266638G19	1.2V
	16GB	AD4I2666316G19	1.2V

Type	DDR3L Wide Temp SO-DIMM(W)	DDR4 Wide Temp SO-DIMM(W)	DDR4 Wide Temp SO-DIMM(W)
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	204 Pin	260 Pin	260 Pin
Capacity	4GB/8GB	4GB/8GB	4GB/8GB/16GB
DRAM Configuration	512M x 8	512M x 8 1024M x 8	512M x 8 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	-40℃ to +85℃	-40℃ to +85℃	-40℃ to +85℃
Gold Finger Plating	3 or 30 micro inch	3 or 30 micro inch	3 or 30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

204/260-Pin ECC SO-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	2GB	ADDS1600C2G11	1.35V
	4GB	ADDS1600W4G13	1.35V
	8GB	ADDS1600W8G13	1.35V
DDR4 2400	4GB	AD4B2400W4G17	1.2V
	8GB	AD4B240038G17	1.2V
	16GB	AD4B2400316G17	1.2V
DDR4 2666	4GB	AD4B2666W4G19	1.2V
	8GB	AD4B2666638G19	1.2V
	16GB	AD4B2666316G19	1.35V

Type	DDR3L ECC SO-DIMM	DDR4 ECC SO-DIMM	DDR4 ECC SO-DIMM
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	204 Pin	260 Pin	260 Pin
Capacity	2GB/4GB/8GB	4GB/8GB/16GB	4GB/8GB/16GB
DRAM Configuration	256M x 8 512M x 8	512M x 8 1024M x 8	512M x 8 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	0℃ to +85℃	0℃ to +85℃	0℃ to +85℃
Gold Finger Plating	30 micro inch	30 micro inch	30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

240/288-Pin U-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	2GB	ADDU160022G11	1.35V
	4GB	ADDU1600W4G11	1.35V
	8GB	ADDU1600W8G11	1.35V
DDR4 2400	4GB	AD4U2400W4G17	1.2V
	4GB	AD4U2400J4G17	1.2V
	8GB	AD4U240038G17	1.2V
	16GB	AD4U2400316G17	1.2V
DDR4 2666	4GB	AD4U2666W4G19	1.2V
	8GB	AD4U266638G19	1.2V
	16GB	AD4U2666316G19	1.2V

Type	DDR3L U-DIMM Non-ECC	DDR4 U-DIMM Non-ECC	DDR4 U-DIMM Non-ECC
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	240 Pin	288 Pin	288 Pin
Capacity	2GB/4GB/8GB	4GB/8GB/16GB	4GB/8GB/16GB
DRAM Configuration	256M x 8 512M x 8	512M x 8 / 512M x 16 1024M x 8	512M x 8 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	0℃ to +85℃	0℃ to +85℃	0℃ to +85℃
Gold Finger Plating	3 or 30 micro inch	3 or 30 micro inch	3 or 30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

240/288-Pin ECC U-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	2GB	ADDE1600C2G11	1.35V
	4GB	ADDE1600W4G11	1.35V
	8GB	ADDE1600W8G11	1.35V
DDR4 2400	4GB	AD4E2400W4G17	1.2V
	8GB	AD4E240038G17	1.2V
	16GB	AD4E2400316G17	1.2V
DDR4 2666	4GB	AD4E2666W4G19	1.2V
	8GB	AD4E266638G19	1.2V
	16GB	AD4E2666316G19	1.2V

Type	DDR3L ECC DIMM	DDR4 ECC DIMM	DDR4 ECC DIMM
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	240 Pin	288 Pin	288 Pin
Capacity	2GB/4GB/8GB	4GB/8GB/16GB	4GB/8GB/16GB
DRAM Configuration	256M x 8 512M x 8	512M x 8 1024M x 8	512M x 8 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	0℃ to +85℃	0℃ to +85℃	0℃ to +85℃
Gold Finger Plating	30 micro inch	30 micro inch	30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

240/288-Pin VLP U-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	2GB	AD3X160022G11	1.35V
	4GB	AD3X1600W4G11	1.35V
	8GB	AD3X1600W8G11	1.35V
DDR4 2400	4GB	AD4X2400W4G17	1.2V
	8GB	AD4X240038G17	1.2V
	16GB	AD4X2400316G17	1.2V
DDR4 2666	4GB	AD4C2666W4G19	1.2V
	8GB	AD4X266638G19	1.2V
	16GB	AD4X2666316G19	1.2V

Type	DDR3L VLP U-DIMM	DDR4 VLP U-DIMM	DDR4 VLP U-DIMM
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	240 Pin	288 Pin	288 Pin
Capacity	2GB/4GB/8GB	4GB/8GB/16GB	4GB/8GB/16GB
DRAM Configuration	256M x 8 512M x 8	512M x 8 1024M x 8	512M x 8 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	0℃ to +85℃	0℃ to +85℃	0℃ to +85℃
Gold Finger Plating	3 or 30 micro inch	3 or 30 micro inch	3 or 30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

240/288-Pin VLP ECC U-DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	4GB	ADDC1600W4G11	1.35V
	8GB	ADDC1600W8G11	1.35V
DDR4 2400	4GB	AD4C2400W4G17	1.35V
	8GB	AD4C240038G17	1.2V
	16GB	AD4C2400316G17	1.2V
DDR4 2666	4GB	AD4C2666W4G19	1.2V
	8GB	AD4C266638G19	1.2V
	16GB	AD4C2666316G19	1.2V

Type	DDR3L VLP ECC DIMM	DDR4 VLP ECC DIMM	DDR4 VLP ECC DIMM
Frequency	1600MHz	2400MHz	2666MHz
Pin Count	240 Pin	288 Pin	288 Pin
Capacity	4GB/8GB	4GB/8GB/16GB	4GB/8GB/16GB
DRAM Configuration	512M x 8	512M x 8 1024M x 8	512M x 8 / 512M x 16 1024M x 8
Timing CL-tRCD-tRP-tRAS	11-11-11-28	17-17-17-39	19-19-19-43
Voltage	1.35V	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No	No
Operating Temp.	0℃ to +85℃	0℃ to +85℃	0℃ to +85℃
Gold Finger Plating	30 micro inch	30 micro inch	30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty	Lifetime Warranty

288-Pin Registered DIMM

Speed	Capacity	Model	Voltage
DDR4 2400	4GB	AD4R2400W4G17	1.2V
	8GB	AD4R240038G17	1.2V
	16GB	AD4R2400316G17	1.2V
	32GB	AD4R2400V32G17	1.2V
DDR4 2666	4GB	AD4R2666W4G19	1.2V
	8GB	AD4R266638G19	1.2V
	16GB	AD4R2666316G19	1.2V
	32GB	AD4R2666V32G19	1.2V

Type	DDR4 Registered DIMM	DDR4 Registered DIMM
Frequency	2400MHz	2666MHz
Pin Count	288 Pin	288 Pin
Capacity	4GB/8GB/16GB/32GB	4GB/8GB/16GB/32GB
DRAM Configuration	512M x 8 / 1024M x 8 2048M x 4	512M x 8 / 1024M x 8 2048M x 4
Timing CL-tRCD-tRP-tRAS	17-17-17-39	19-19-19-43
Voltage	1.2V	1.2V
Rank Number	1Rank/2Rank	1Rank/2Rank
Heat Sink	No	No
Operating Temp.	0℃ to +85℃	0℃ to +85℃
Gold Finger Plating	30 micro inch	30 micro inch
Warranty	Lifetime Warranty	Lifetime Warranty

240-Pin Registered DIMM

Speed	Capacity	Model	Voltage
DDR3L 1600	4GB	ADDR1600W4G11	1.35V
	8GB	ADDR1600W8G11	1.35V

Type	DDR3L Registered DIMM
Frequency	1600MHz
Pin Count	240 Pin
Capacity	4GB/8GB
DRAM Configuration	512M x 8 / 1024M x 4
Timing CL-tRCD-tRP-tRAS	11-11-11-28
Voltage	1.35V
Rank Number	1Rank/2Rank
Heat Sink	No
Operating Temp.	0℃ to +85℃
Gold Finger Plating	30 micro inch
Warranty	Lifetime Warranty

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