

Apacer



THE MOST **RELIABLE**
STORAGE FOR INDUSTRIES

Product Guide

Global Presence



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Industrial SSD Line

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S.M.A.R.T
Enable

Built-in
ECC

ATA
Secure
Erase

RoHS
Compliant

Global
wear-leveling



Increased
Security



High
Performance



Low Power
Consumption



High
Reliability

Apacer

Why Apacer SSD?

✓ Quality Assurance

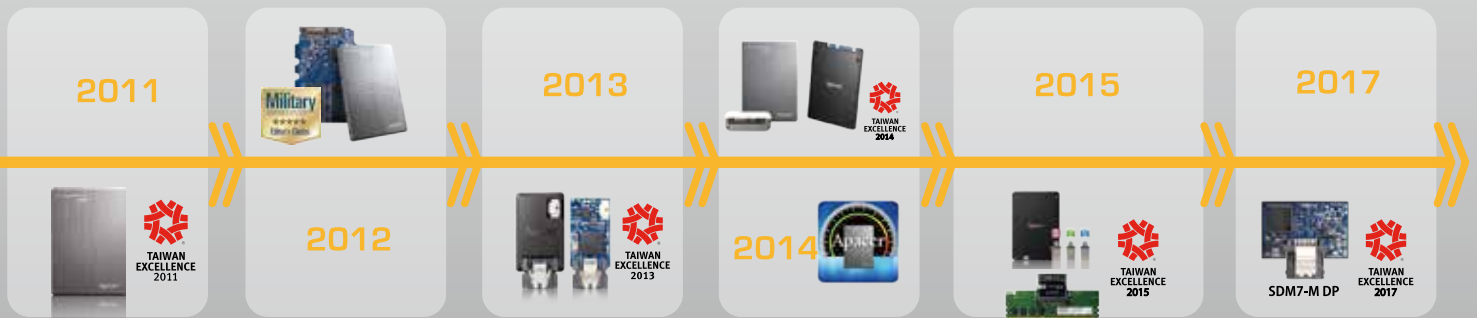
We insist on SSD production with the most stringent manufacturing quality control above industry standards, including ISO certified management systems, advanced surface mount equipments and extended temperature test chambers.

All our industrial SSD solutions have passed strict ORT (on-going test) and environmental tests, including temperature, humidity, vibration, and shock tests, etc. to ensure the most reliable quality and lifespan of products in mass production. Our factory offers 24/7 flexible and quick delivery services with the most reliable quality.



💡 Professional Technique

We boast state-of-the-art technology and differentiated competitive advantage. With R&D capability of software, hardware and firmware, we constantly launch a variety of storage solutions leading the industry.



📈 Remarkable Achievement

We obtain trust and credit in the global IPC market. Since 1998, we have launched industrial SSD solutions featuring high efficiency, stability and high value as well as delivered over 30 million units. The quantity of SSD Module even achieves the largest shipments of the world, showing customers' confidence in Apacer.

👍 Extensive Experience

We cultivate highly customized profound experiences of industries to meet customer's demands such as sizes, interfaces, thickness, and offer specific applications for software and firmware. Due to flexible adaptability, effective schedule control and industrial experiences, we provide storage solutions in small volume but large variety to meet customers' demands.

🔄 Longevity Commitment

We commit that firmware and major components of the products can be fixed upon customers' recognition and verification, offering a highly reliable supply to customers for up to 3 years. Our service has been certified by the Tier-1 tech giants in the USA and Japan.

🤝 Reliable Service

We possess a global-scale service and maintenance system, including on-spot real-time FAE technical support, product serial number (S/N) tracking and defective items analysis report. We believe that not only stringent quality, professional technologies, stable supply and flexible customization but comprehensive after-sale service help us to build sustainable trust and reliable partnership with our customers.

PCIe SSD

Industrial

PCIe SSD

Features

- Compliant with PCIe Gen.3 x 4 and NVMe 1.2
- Breakthrough performance
- End-to-End Data Protection
- Thermal Throttling
- Powerful LDPC ECC
- Page Mapping



Specifications

	MLC Family	
Model	PM110-25	PM110-M280
Form Factor	2.5"	M.2 2280
Interface	PCIe Gen.3 x4	PCIe Gen.3 x4
Connector	U.2 (SFF-8639)	M.2 M key
Capacity	128GB~2TB	128GB~512GB
Max.R/W Performance (MB/sec)	2815 / 1475	2780 / 1405
IOPs (4K Random Write)	238K	194K
ECC Engine	120-bit / 2K Bytes	
Standard Op. Temp. (°C)	0 ~ + 70	
Thermal Sensor	Y	Y
Shock	1,500G	
Vibration	15G	
MTBF (hours)	>1,000,000	
Dimension (L x W x H)	100.00 x 69.85 x 9.50 (mm)	80x22x3.8 (mm)

**Industrial
PCIe SSD**

PDM

PCIe Disk Module

Features



- Compliant with PCI Express specification Rev 2.0
- Advanced wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- AHCI interface support
- NCQ command support



mPDM+



M.2 PT42

Specifications

Model	MLC Family	
	mPDM+	M.2 PT42
Form Factor	Mini PCIe Full-Mini Card Type	M.2 2242-D2-B-M
Interface	PCI Express Gen 2 x1	PCI Express Gen 2 x2
Transfer Mode	5Gb/sec	10Gb/sec
Capacity	8GB~64GB	16GB~128GB
Max. R/W Performance (MB/sec)	390/320	530/170
ECC Support	72 bit/ 1K Bytes	
Standard Op. Temp. [°C]	0~+70	
Shock	50G	
Vibration	15G	
MTBF (hours)	>1,000,000	

VA Features

S.M.A.R.T. Function	●	●
Nano Coating Protection	◎	◎

●=Default ◎=Optional

2.5"
SATA SSD

SFD

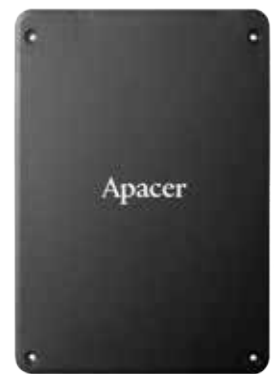
SATA Flash Drive

Features

- Perfect replacement of 2.5" SATA HDDs
- Global wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- TRIM support
- DEVSLP Support (Optional)



9.5mm Housing



7mm Housing

Specifications

	SLC Family		MLC Family	
Model	SS210-25	SM210-25	SFD 25H1-M	SM 130-25
Interface	SATA 6Gb/s			
Connector	(7+15)pin male			
Physical Form Factor (Inch)	2.5			
Capacity	8GB~240GB	32GB~512GB	8GB~256GB	512GB~2TB
Max. R/W Performance (MB/sec)	530 / 445	510 / 380	430 / 190	520 / 510
IOPs (4K Random Write)	76K	79K	22K	90K
ECC Support	72 bit / 1K Bytes			
Standard Op. Temp. (°C)	0~ + 70			
Wide Op. Temp. (°C)	-40~+85			
Shock	1500G			
Vibration	15G			
Humidity	5%~95%			
MTBF (hours)	>2,000,000		>1,000,000	
Dimensions (mm)	100x69.8x9.5/100x69.8x7			

VA Features

S.M.A.R.T. Function	●	●	●	●
Wide Temp. (-40°C~ +85°C)	●	●	●	●
TRIM	●	●	●	●
Nano Coating & Protection	○	○	○	-
SSDWidget	●	●	●	●

1.8"
SATA SSD

SFD

SATA Flash Drive



Features

- Perfect replacement of 1.8" SATA HDDs
- Global wear-leveling technology
- S.M.A.R.T Function
- Power Failure Recovery
- TRIM support



Specifications

	SLC Family	MLC Family
Model	SFD 18A	SFD 18A-M
Interface	SATA 6Gb/s	
Connector	(7+9) Pin male	
Physical Form Factor (Inch)	1.8"	
Capacity	32GB~256GB	32GB~512GB
Max. R/W Performance (MB/sec)	530/445	520/350
ECC Support	40 bit/ 1K Bytes	40 bit/ 1K Bytes
IOPs (4K Random Write)	76K	79K
Standard Op. Temp. [°c]	0~+70	
Wide Op. Temp. [°c]	-40~+85	-40~+85
Shock	50G	
Vibration	15G	
Humidity	5%~95%	
MTBF (hours)	>2,000,000	>1,000,000
Dimensions (mm)	54x39.8x4	

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	●	●
TRIM	●	●
Nano Coating Protection	◎	◎
SSDWidget	●	●
DEVSLP	◎	◎

●=Default ◎=Optional

HalfSlim SATA SSD (MO-297)

SFD

SATA Flash Drive

Features



- Compliant with JEDEC MO-297 standard
- Global wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- TRIM support
- DEVSLP Support (Optional)



Specifications

	SLC Family	MLC Family	
Model	SFD 18S6	SFD 18S6-M	SFD 18SH-M
Interface	SATA 6Gb/s		
Connector	(7+15) Pin male		
Form Factor (Inch)	JEDEC MO-297		
Capacity	4GB~128GB	32GB~512GB	8GB~256GB
Max. R/W Performance (MB/sec)	530/445	530/460	430/160
IOPs (4K Random Write)	76K	79K	22K
ECC Support	40 bit/1K Bytes		72 bit/1K Bytes
Standard Op. Temp. (°C)	0~+70		
Wide Op. Temp. (°C)	-40~+85	-40~+85	-40~+85
Shock	50G		
Vibration	15G		
Humidity	5%~95%		
MTBF (hours)	>2,000,000	>1,000,000	
Dimensions (mm)	54x39.8x4		

VA Features

S.M.A.R.T. Function	●	●	●
Wide Temp. (-40°C~+85°C)	●	●	●
TRIM	●	●	●
Nano Coating Protection	◎	◎	◎
SSDWidget	●	●	●
DEVSLP	◎	◎	◎
Thermal Sensor	◎	◎	◎

●=Default ◎=Optional

mSATA SSD (MO-300A)

mSATA

Features



- mSATA connector
- Compliant with JEDEC MO-300A standard
- Global wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- TRIM support
- DEVSLP Support



Specifications

Model	SLC Family		MLC Family	
	SS210-300	mSATA H1	SM210-300	mSATA H1-M
Interface	SATA 6Gb/s			
Formfactor	JEDEC MO-300A			
Capacity	2GB~128GB	2GB~64GB	8GB~512GB	8GB~256GB
Max. R/W Performance (MB/sec)	530 / 450	125 / 100	505 / 360	490 / 175
IOPs (4K Random Write)	70K	-	79K	-
ECC Support	72 bit / 1K Bytes			
Standard Op. Temp. (°C)	0~ + 70			
Wide Op. Temp. (°C)	-40~+85			
Shock	50G			
Vibration	15G			
Humidity	5%~95%			
MTBF (hours)	> 2,000,000		> 1,000,000	
Dimensions (mm)	50.8x29.85x3.85			

VA Features

S.M.A.R.T. Function	●	●	●	●
Wide Temp. (-40°C~+85°C)	●	●	●	●
TRIM	●	●	●	●
Nano Coating Protection	◎	◎	◎	◎
SSDWidget	●	●	●	●
DEVSLP	●	●	●	●
HW Write Protect Switch	◎	-	◎	-
Thermal Sensor	◎	◎	◎	◎

●=Default ◎=Optional

mSATA Mini SSD (MO-300B)

mSATA mini

Features

- JEDEC MO-300B form factor
- Global wear-leveling and block management
- S.M.A.R.T. function
- TRIM support



Specifications

	SLC Family	MLC Family
Model	SS220-300B	SM220-300B
Interface	SATA 6GB /s	SATA 6GB /s
Form Factor	JEDEC MO-300B	JEDEC MO-300B
Capacity	2GB~32GB	8GB~128GB
Max. R/W Performance (MB/sec)	65/60	280/180
IOPs (4K Random Write)	15/15	47/45
ECC Support	72 bit/1K Bytes	
Standard Op. Temp. (°c)	0~+70	0~+70
Wide Op. Temp. (°c)	-40~+85	-40~+85
Shock	50G	
Vibration	15G	
Humidity	5%~95%	
MTBF (hours)	>2,000,000	>1,000,000
Dimensions (mm)	29.85 x 26.8 x 4.85	29.85 x 26.8 x 4.85

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	●	●
TRIM	●	●
Nano Coating Protection	◎	◎
SSDWidget	●	●
DEVSLP	-	-
Thermal Sensor	◎	◎

●=Default ◎=Optional

M.2
(NGFF)

M.2 (NGFF)

Features

- M.2 (NGFF) Connector
- Global wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- TRIM support



SM220-M242



SM210-M280

Specifications

	MLC Family	
Model	SM220-M242	SM210-M280
Interface	SATA 6Gb/s	
Capacity	8GB~128GB	32GB~512GB
Max. R/W Performance (MB/sec)	510/120	520/355
ECC Support	72 bit/1K Bytes	
Standard Op. Temp. (°C)	0~+70	
Shock	50G	
Vibration	15G	
MTBF (hours)	>1,000,000	
Dimensions (mm)	22x42	22x80

VA Features

S.M.A.R.T. Function	●	●
TRIM	●	●
Nano Coating Protection	◎	◎
SSDWidget	●	●
CoreProtector Technology	◎	◎
Single Side	-	◎

●=Default ◎=Optional

M.2
(NGFF)

M.2 (NGFF)

Features

- Global wear-Leveling technology
- Built-in 72-bit per 1K bytes BCH ECC
- Power Failure Recovery
- S.M.A.R.T. Function
- TRIM support



2242 P100-M



2280 P201-M

Specifications

	MLC Family	
Model	2242 P100-M	2280 P201-M
Interface	SATA 6Gb/s	
Capacity	8GB~256GB	32GB~256GB
Max. R/W Performance (MB/sec)	440/160	520/180
ECC Support	72bit/1K Bytes	
Standard Op. Temp. (°C)	0~+70	
Wide Op. Temp. (°C)	-40~+85	
Shock	50G	
Vibration	15G	
MTBF (hours)	>1,000,000	
Dimensions (mm)	22x42	22x80

VA Features

S.M.A.R.T. Function	●	●
TRIM	●	●
Nano Coating Protection	◎	◎
SSDWidget	●	●

●=Default ◎=Optional

7-Pin SATA Module

SDM



SATA Disk Module

Features

- 7-pin SATA connector
- Support Toggle DDR & ONFi NAND flash
- Built-in 40-bit per 1K bytes BCH ECC
- Power Failure Recovery
- ATA Secure Erase
- S.M.A.R.T. Function
- TRIM support

Specifications



	SLC Family		MLC Family	
	SDM5A LP(H)	SDM5A LP2	SDM5A-M LP(H)	SDM5A-M LP2
Model	90D/180D	180D	90D/180D	180D
Connector	7-pin			
Product Type	90D/180D	180D	90D/180D	180D
Interface	SATA 6Gb/s			
Capacity	STD:1GB~16GB High Speed:8GB~32GB	8GB~32GB	STD:4GB~32GB High Speed:16GB~64GB	32GB~64GB
Max. R/W Performance (MB/sec)	STD: 34/55 High Speed: 435/215	435/215	STD: 120/40 High Speed: 425/80	425/80
ECC Support	40 bit/ 1K Bytes			
Standard Op. Temp. (°C)	0~+70			
Wide Op. Temp. (°C)	-40~+85			
Shock	50G			
Vibration	15G			
Humidity	5%~95%			
MTBF (hours)	>2,000,000		>1,000,000	
Product image/Dimensions (mm)	 90D LPH: 32.5 x 29.4 x 8.53		 180D LP2: 33 x 29.3 x 9.15	

VA Features

S.M.A.R.T. Function	●	●	●	●
TRIM	●	●	●	●
Wide Temp. (-40°C~+85°C)	●	●	●	●
SSDWidgit	●	●	●	●
Housing	◎	◎	◎	◎
HW Write Protect Switch	-	◎	-	◎

●=Default ◎=Optional

22-Pin SATA Module

SDM

SATA Disk Module

Features



- 22-pin SATA connector
- Global wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- Intelligent Power Failure Recovery
- TRIM support



22P/90D



22P/180D

Specifications

	SLC Family	MLC Family
Model	SDM5A	SDM5A-M
Connector	22 - pin	
Product Type	90D/180D	
Interface	SATA 6Gb/s	
Capacity	1GB~32GB	8GB~64GB
Max. R/W Performance (MB/sec)	65/105	200/85
ECC Support	40 bit/1K Bytes	
Standard Op. Temp. (°C)	0~+70	0~+70
Wide Op. Temp. (°C)	-40~+85	-40~+85
Shock	50G	
Vibration	15G	
MTBF (hours)	>2,000,000	>1,000,000
Dimensions (mm)	90D : 44x30x11 ; 180D : 45.8x32.8x5.73	

VA Features

S.M.A.R.T. Function	●	●
TRIM	●	●
Nano Coating Protection	◎	◎
SSDWidget	●	●
CoreProtector Technology	◎	◎

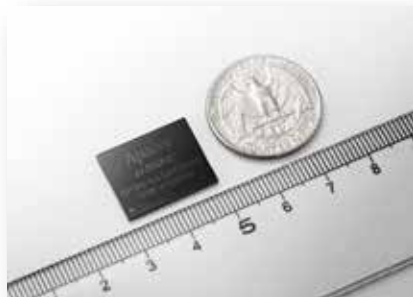
●=Default ◎=Optional

Micro SATA Disk Chip (MO-276)

μSDC

Micro SATA Disk Chip

Features



- Compliant with MO-276 standard
- SoC (System on chip) / SiP (System in Package) Technology
- Built-in S.M.A.R.T. functions
- TRIM support
- DEVSLP Support



Specifications

	MLC Family
Model	μSDC-M Plus
Interface	SATA 6Gb/s
Form Factor	JEDEC MO-276
Capacity	8GB~128GB
Max. R/W Performance (MB/sec)	495 / 175
Package	BGA 156 Ball
ECC Support	72 bit/ 1K Bytes
Standard Op. Temp. (°C)	0~+70
Wide Op. Temp. (°C)	-40~+85
Shock	50G
Vibration	15G
Humidity	5%~95%
MTBF (hours)	>1,000,000
Dimensions (mm)	16x20x1.4

VA Features

S.M.A.R.T. Function	●
Wide Temp. (-40°C~+85°C)	●
TRIM	●
SSDWidget	●
DEVSLP	●

●=Default

2.5"
PATA SSD

AFD

ATA Flash Drive

Features



- Perfect replacement of 2.5" PATA HDDs
- Advanced wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- Intelligent Power Failure Recovery
- Master / Slave Jumper Setting



Wafer connector for Core Technology

Specifications

	SLC Family	MLC Family
Model	AFD 257	AFD 257-M
Connector	44-pin	
Physical Form Factor (inch)	2.5	
Capacity	8GB~128GB	32GB~256GB
Transfer Mode	PIO Mode-4 ; MWDMA Mode-2 ; UDMA Mode-6	
Max. R/W Performance (MB/sec)	100/95	100 / 90
ECC Support	72 bit/ 1K Bytes	
Standard Op. Temp. (°c)	0~+70	
Wide Op. Temp. (°c)	-40~+85	
Shock	1500G	
Vibration	15G	
Humidity	5%~95%	
MTBF (hours)	>2,000,000	>1,000,000
Dimensions (mm)	100x69.8x9.5	

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	●	●
Nano Coating & Molding Protection	◎	◎
CoreSecurity Technology	◎	◎

●=Default ◎=Optional

1.8"
PATA SSD

AFD

ATA Flash Drive

Features

- Perfect replacement of 1.8" PATA HDDs
- Advanced wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- Intelligent Power Failure Recovery



Specifications

	SLC Family	MLC Family
Model	AFD 187	AFD187-M
Connector	ZIF 40-pin	
Physical Form Factor (inch)	1.8	
Capacity	4GB~128GB	32GB~256GB
Transfer Mode	PIO Mode-4 ; MWDMA Mode-2 ; UDMA Mode-6	
Max. R/W Performance (MB/sec)	100/95	100/90
ECC Support	72 bit/1K Bytes	
Standard Op. Temp. (°c)	0~+70	
Wide Op. Temp. (°c)	-40~+85	
Shock	50G	
Vibration	15G	
Humidity	5%~95%	
MTBF (hours)	>2,000,000	>1,000,000
Dimensions (mm)	71x54x5	

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	●	●
Nano Coating & Molding Protection	◎	◎
CoreSecurity Technology	◎	◎

●=Default ◎=Optional

PATA Module

ADM

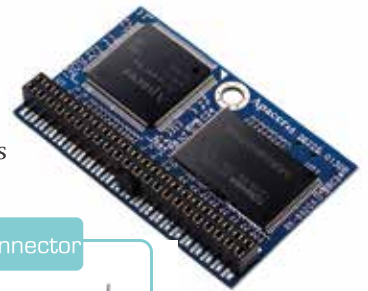
ATA Disk Module



Features



- Standard 44-pin IDE female connector
- Advanced wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- Intelligent Power Failure Recovery
- Secure protection zone
- Master / Slave Switch (optional)



40-pin Connector



An option of Pin#20 blocked for foolproof design

Specifications

	SLC Family	MLC Family
Model	ADM5S	ADM5S-M
Connector	40-pin/44-pin	
Product Type	44P/90D, 44P/180D MPH, 40P/180D 44P/270D	44P/90D, 44P/180D MPH, 40P/180D 44P/270D
Interface	Standard ATA / IDE	
Capacity	90D: 128MB-64GB 180D MPH: 128MB-32GB	90D: 8GB-128GB 180D MPH: 8GB-64GB
Max. R/W Performance (MB/sec)	75/65	100/46
Transfer Mode	PIO Mode-4 ; MWDMA Mode-2 ; UDMA Mode-6	
ECC Support	72 bit/1K Bytes	72 bit/1K Bytes
Standard Op. Temp. (°C)	0~+70	
Wide Op. Temp. (°C)	-40~+85	-
Shock	50G	
Vibration	15G	
Humidity	5%~95%	
MTBF (hours)	>2,000,000	>1,000,000
Dimensions (mm)	 44P/90D 45 x 28 x 6.65  44P/180D MPH 49.99 x 27.1 x 5.97  44P/270D 45 x 32.6 x 6.8  40P/180D 58.99 x 27.83 x 8.25	

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	●	●
Nano Coating Protection	◎	◎

●=Default ◎=Optional

Industrial CF Card

Industrial CF

Industrial Compact Flash

Features



HW write-protect switch

- Compliant with CFA 6.0 specification
- Advanced wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- Intelligent power failure recovery
- MLC extended temperature support
- Lock switch design for write-protection (optional)

Specifications

	SLC Family	MLC Family
Model	CF 6	CF 6-M
Connector	50-pin	
Interface	PC card memory mode, PC card I/O mode, True IDE mode	
Capacity	512MB~64GB	8GB~128GB
Transfer Mode	PIO Mode-6 ; MWDMA Mode-4 ; UDMA Mode-6	PIO Mode-6 ; MWDMA Mode-4 ; UDMA Mode-6
	PIO Mode-6 ; MWDMA Mode-4 ; UDMA Mode-7	PIO Mode-6 ; MWDMA Mode-4 ; UDMA Mode-7
Max. R/W Performance (MB/sec)	110/80	106/65
ECC Support	72 bit/1K Bytes	72 bit/1K Bytes
Standard Op. Temp. (°C)	0~+70	
Wide Op. Temp. (°C)	-40~+85	
Shock	50G	
Vibration	15G	
Humidity	5%~95%	
MTBF (hours)	>1170,000	>1170,000
Dimensions (mm)	42.8x36.4x3.3	

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	●	●
Conformal Coating	○	○
HW Write Protect Switch	○	○

●=Default ○=Optional

Industrial CFast Card

CFast

CFast Card

Features



- Compliant with CFast 2.0 specification
- Advanced wear-leveling and block management
- Built-in ATA secure erase and S.M.A.R.T. functions
- Intelligent power failure recovery
- TRIM support
- DEVSLP Support



Specifications

	SLC Family		MLC Family	
Model	CFast 2	SM220-CFast	CFast 2H-M	
Interface	SATA 6Gb/s			
Connector	(7+17)pin male			
Capacity	2GB~64GB	8GB~256GB	8GB~128GB	
Max. R/W Performance (MB/sec)	285 / 260	505/180	415/175	
ECC Support	40 bit/ 1K Bytes	72 bit/ 1K Bytes	72 bit/ 1K Bytes	
Standard Op. Temp. (°C)	0~+70			
Wide Op. Temp. (°C)	-40~+85			
Shock	50G			
Vibration	15G			
Humidity	5%~95%			
MTBF (hours)	>2,000,000	>1,000,000		
Dimensions (mm)	42.8x36.4x3.6			

VA Features

S.M.A.R.T. Function	●	●	●
Wide Temp. (-40°C~+85°C)	●	●	●
TRIM Command	●	●	●
SSDWidget	●	●	●
DEVSLP	●	●	●
HW Write Protect Switch	◎	◎	-

●=Default ◎=Optional

Industrial SD Card

Industrial SD Card

Features



- Compliant with SD 3.0 and 2.0 Specification
- S.M.A.R.T supported
- Wear-leveling and block management
- Support Class 10 with UHS-I
- Auto Standby and Sleep Mode Support
- Low power consumption
- Page mapping (R1 Only)



Specifications

	SLC Family		MLC Family
Model	ISD	R1	SDHC H1M
Card Specification	SD 2.0 Compliant	SD 3.0	SD 3.0 Compliant
Capacity	256MB~32GB	1GB~16GB	4GB~128GB
Max. R/W Performance (MB/sec)	23/17	43/41	43/25
ECC Support	24 bit/1K Bytes	43 bit/1K Bytes	72 bit/1K Bytes
Standard Op. Temp. (°C)	0~+70	-	-25~+85
Wide Op. Temp. (°C)		-40~+85	
Durability		10,000 mating cycles	
Bending		10N/1min	
Torque		0.15Nm or +/-2.5 deg.(max.)	
Drop Test		1.5m free fall	
Humidity		95%	
WP Switch Cycles		Min. 1,000 cycles	
Dimensions (mm)		32x24x2.1	

VA Features

S.M.A.R.T. Function	●	●
Wide Temp. (-40°C~+85°C)	◎	◎

●=Default ◎=Optional

Industrial MicroSD Card

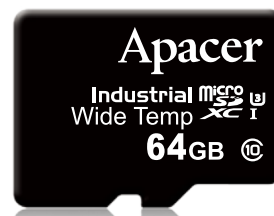
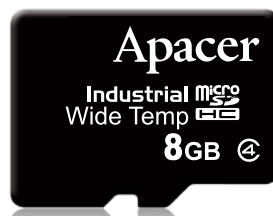
Industrial **micro**SD

Industrial microSD Card



Features

- Compliant with SD 3.0 and SD2.0 Specification
- S.M.A.R.T supported
- Support SD mode and SPI mode
- Global Wear-Leveling and Block Management
- Low Power Consumption
- Page mapping (R1 Only)



Specifications

Model	SLC Family		MLC Family
	MicroSD/ MicroSDHC	R1	MicroSDHC Hi-M
Card Specification	SD 2.0 Compliance	SD 3.0	SD 3.0 Compliance
Capacity	256MB~4GB	1GB~8GB	4GB~64GB
Max. R/W Performance (MB/sec)	20/16	34/28	44/36
ECC Support	24 bit/1K Bytes	43 bit/1K Bytes	72 bit/1K Bytes
Standard Op. Temp. (°C)	-	-	-25~+85
Wide Op. Temp. (°C)	-40~+85	-40~+85	-40~+85 (Optional)
Durability	10,000 times		
Bending Test	10 N/1 minute/5 times		
Humidity	40oc/93% RH 500hrs		
Salt-Spray	3+/1% NaCl;35oc;24hrs		
Dimensions (mm)	15x11x1		

VA Features

S.M.A.R.T. Function	●	●	●
Wide Temp. (-40°C~+85°C)	●	●	◎

●=Default ◎=Optional

USB Module

UDM

SATA Disk Module

Features



- Compliant with the standard USB specification
- Compact size and available in various form factors
- Supports Linux/WinXP Embedded/Win7 Embedded/Win8
- Supports readyboots for Vista
- Shock resistance, anti-vibration and low power consumption

Specifications

	SLC Family	MLC Family			
Model	UDMII Plus	UDMII Plus-M			
Interface	USB 2.0	USB 2.0			
Connector	10-pin (2x5 header)	10-pin (2x5 header)			
Connector Pitch(mm)	Type A,B,C,D:2.54 & Type E: 2.00	Type A,B,C,D:2.54 & Type E: 2.00			
Capacity	256MB~32GB	4GB~64GB			
Max. R/W Performance (MB/sec)	34/22	33/16			
Standard Op. Temp. (°C)	0~+70	0~+70			
Wide Op. Temp. (°C)	-40~+85	-40~+85			
Shock	50G	50G			
Vibration	15G	15G			
Humidity	5%~95%	5%~95%			
Product Image/ Dimensions (mm)	    				
	Type A 28.8 X 26.65 X 10.5	Type B 37.8 X 26.65 X 10.5	Type C 37.8 X 26.65 X 10.5	Type D - LPH 28.1 X 35.7 X 7.2 (No MLC Support)	Type E 36.8 X 26.5 X 7.5

VA Features

Wide Temp. (-40°C~+85°C)



●=Default ○=Optional

USB Drive

Industrial USB Drive

Features

- Implements advanced wear-leveling algorithms
- ECC engine
- Power Saving implemented
- Optional Industrial temp. range -40°C to 85°C



Specifications

Model	SLC Family		MLC Family	
	AH321	AH322	AH321-M	AH322-M
Interface	USB 2.0			
Capacity	256MB~32GB		4GB~32GB	
Max. R/W Performance (MB/sec)	34/22		33/16	
Standard Op. Temp. (°C)	0~+70			
Wide Op. Temp. (°C)	-40~+85			
Shock	50G			
Vibration	15G			
Humidity	5%~95%			
Dimensions (mm)	60.6x18.8x8	55.2x18x8.5	60.6x18.8x8	55.2x18x8.5

VA Features

Wide Temp. (-40°C~+85°C)

●

●

●

●

●=Default ○=Optional

USB Drive 3.0

Industrial USB Drive

Features

- USB3.0 high-speed transmission
- Support S.M.A.R.T function
- Backward compatible with USB2.0
- Chip-On-Board (COB) packaging technology, stored and protected against dust, water and shock (EH163-M only)
- Implements advanced wear-leveling algorithms
- ECC engine
- Power saving implemented
- Optional Industrial temp. range -40°C to 85°C



EH 163-M



EH 353



EH 322

Specifications

Model	SLC Family		MLC Family	
	EH353/EH322		EH353-M/AH322-M	
Interface	USB 3.0			
Capacity	256MB~32GB		8GB~128GB	8GB~64GB
Max. R/W Performance (MB/sec)	80/70		205/95	225/80
Standard Op. Temp. (°C)	0~+70			
Wide Op. Temp. (°C)	-40~+85			-
Shock	50G			
Vibration	15G			
Humidity	5%~95%			
Dimensions (mm)	59x18.4x9.1			23.1 x 14.3 x 6.9

VA Features

Wide Temp. (-40°C~+85°C)	●	●	-
S.M.A.R.T. Function	●	●	●

●=Default ◎=Optional

Core Power Series

- Developed to implement backup power supply that lengthens the emergent hold-on time for the controller to move all the cached data into NAND flash.
- An Intelligent Power Failure Status Detect function.



Detect



Backup Power

- SSD will stop to receive host command
- Detect IC will inform controller to move all the cached data into NAND
- Capacitors start working - backup power supply



Form Factor	2.5"	M.2 2280	mSATA (MO-300)	MO297	CFast
Model	SM21P-25	SM21P-M280	SM22P-300	SM22P-297	SM22P-CFast
Interface	SATA 3.0 (6Gb/s)	SATA 3.0 (6Gb/s)	SATA 3.0 (6Gb/s)	SATA 3.0 (6Gb/s)	SATA 3.0 (6Gb/s)
Connector	(7+15) pin male	M.2 B & M key	52-pin mSATA	(7+15) pin male	(7+17) pin male
NAND Flash Type	MLC	MLC	MLC	MLC	MLC
Capacity	32GB~256GB	32GB~256GB	8GB~128GB	32GB~128GB	8GB~128GB
Max. R/W Performance (MB/sec)	505 / 350	505/90	505 / 55	510 / 85	475 / 85
Standard Operating Temperature (°C)	0 ~ + 70	0 ~ + 70	0 ~ + 70	0 ~ + 70	0 ~ + 70
Extended Operating Temperature (°C)	-40 ~ + 85	-40 ~ + 85	-40 ~ + 85	-40 ~ + 85	-40 ~ + 85
Shock	Operation: 50G, 11ms Non-operation: 1500G, 0.5ms	Operation: 50G, 11ms Non-operation: 1500G, 0.5ms	Operation: 50G, 11ms Non-operation: 1500G, 0.5ms	1500G (complied with MIL-STD810)	Operation: 50G, 11ms Non-operation: 1500G, 0.5ms
Vibration	Operation: 7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 15 G, 10 ~ 2000 Hz/sine	Operation: 7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 15G, 10 ~ 2000 Hz/sine	Operation: 7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 4.02 Grms, 15 ~ 2000 Hz/sine (compliant with MIL-STD-810G)	15G (complied with MIL-STD810)	Operation: 7.69 Grms, 20~2000 Hz/random (compliant with MIL-STD-810G) Non-operation: 15 G, 10 ~ 2000 Hz/sine
MTBF (hours)	>1,000,000	>1,000,000	>1,000,000	>1,000,000	>1,000,000

Protection

Nano Coating

- Pin-hole free process with fully conformal on any type of surface materials
- Protection from oxygen, moisture, chemical substances, solvents and carbon dioxide

Conformal Coating

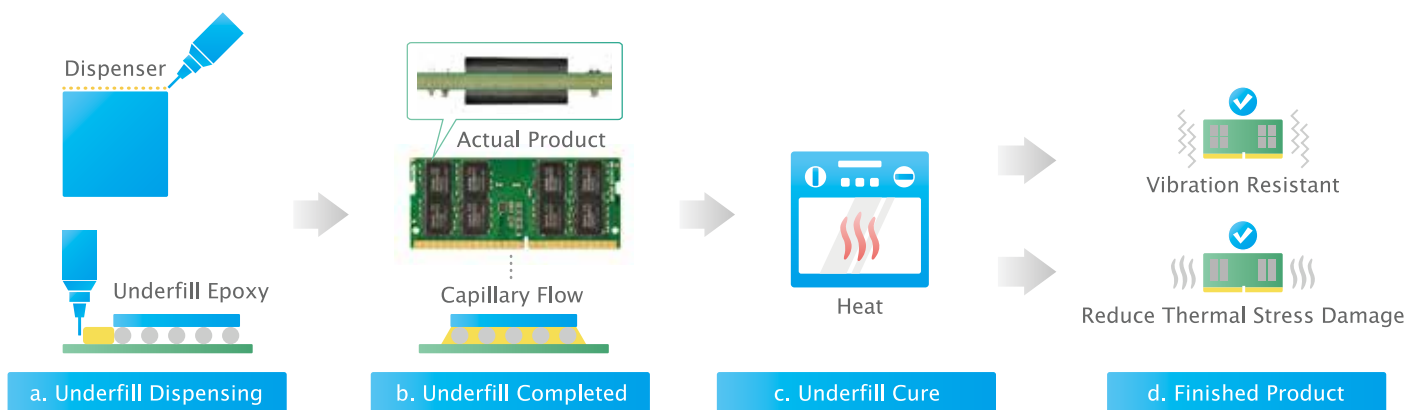
- Easy to apply and cost effective
- Good humidity resistance



	Conformal Coating	Nano Coating
Protection	Dust, moisture, fungus, corrosion	Dust, moisture, fungus, corrosion IP57
Product	Module type w/o housing	Module type w/o housing
Cost	\$	\$\$\$
Additional LT	14 Working-days	14 Working-days

Underfill Process

- Reduces thermal stress damage
- Increases rigidity with strong mechanical bonding
- Enhances product reliability
- Prolongs fatigue lifetime of solder joints





The Most Reliable Storage For Industries

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