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Apacer

Ultra-Mini Digital Key, Take an

THE MOST **RELIABLE**
STORAGE FOR INDUSTRIES

Industrial MEMORY
S O L U T I O N S

Industrial SSD
S O L U T I O N S



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APACER – a „digital storage applications integrator“, is a pioneering company in memory modules and in use of industrial SSD solutions. APACER is the recognized name in innovative memory modules that are widely used in digital media applications as well as storage, reading and sharing of digital data.

CZ APACER - je průkopnická firma v paměťových modulech a využití průmyslových řešení SSD. Apacer je uznávaným výrobcem inovativních paměťových modulů, které jsou používány v digitálních multimediálních aplikacích, při ukládání, čtení a sdílení digitálních dat.

DE APACER – „digitaler Speicherintegrator“ ist ein Pionierunternehmen im Bereich Speichermodule und Einsatz industrieller SSD-Lösungen. Apacer ist ein anerkannter Hersteller von innovativen Speichermodulen, welche in digitalen Multimedia-Anwendungen eingesetzt werden sowie gleichermaßen beim Speichern, Abrufen und Austausch von digitalen Daten.

HU Az APACER - "digitális tárhely integrátor", úttörő a memória modulok és az ipari SSD megoldások gyártásában. Az Apacer a memória modulok elismert gyártója, termékeit csakúgy használják a digitális multimédiás alkalmazásokban, mint a digitális adatok tárolására, olvasására és megosztására.

PL APACER - "magazynowanie danych cyfrowych", to pionier w modułach pamięci i zastosowaniu rozwiązań przemysłowych SSD. Apacer to uznawany producent innowacyjnych modułów pamięci, które stosowane są w cyfrowych aplikacjach multimedialnych zarówno podczas zapisu, odczytu, jak również podczas dzielenia się danymi cyfrowymi.

RO APACER – „un integrator digital pentru aplicațiile de stocare” este o societate inițiatore a modulelor de memorie și a utilizării soluțiilor industriale SSD. Apacer este un nume recunoscut în domeniul modulelor inovatoare de memorie utilizate extins în aplicațiile digitale media precum și ca dispozitiv de stocare, citire și distribuire de date digitale.

SK APACER, je priekopnícka firma v pamäťových modulech a používaní priemyselných riešení SSD. Apacer je uznávaným výrobcem inovatívnych pamäťových modulov, ktoré sú používané v digitálnych multimediálnych aplikáciách, rovnako ako pri ukladaní, čítaní a zdieľaní digitálnych dát.

SSD solutions offer the perfect replacement for traditional hard drives. These series use the standard SATA, PATA, Compact Flash and USB interface control technology to meet the storage needs of the fast-growing embedded applications. The company launched numerous innovative digital storage products which were awarded and received first-rate evaluations from media professionals and consumers.

SATA SSD

Apacer SAFD(Serial ATA Flash Drive) Series is a SATA SSD that is more rugged, reliable and power-efficient compared to a mechanical hard drive. With no moving parts, the Apacer SAFD SSD is designed for use in rugged laptops, military devices, thin clients, Point of Sale (POS) terminals, telecom, medical instruments, surveillance systems, industrial PCs and other embedded applications. The SAFD (Serial ATA Flash Drive) SSD is the best drop-in replacement for high-maintenance HDDs where reliability is a major concern.



Compact Flash

The just-launched fifth-generation industrial CF card features write-protection. By simply locking the lock switch on the bottom side of the card, the industrial CF card allows data to be read only, thus preventing any attempt to write. This way, the data not only can stay safe by avoiding accidental deletion but also can prevent tampering of confidential information that may result in data leakage. These advantages make the card ideal for embedded devices in such fields as medical, military, gaming and automotive applications.

The industrial CF5 card is compliant with the CFA 4.1 specifications. Apacer adopts the standard 50-pin connector and SLC chip featuring industry-level stability for the card. It is available in capacities from 128MB to 16GB. The data transfer mode is up to PIO-6, Multi-Word DMA-4 and Ultra DMA-5, with the sequential read/write speed reaching as fast as 40/30 MB/sec. To help data stay correct, this CFC5 memory card also supports 24-bit ECC function, wear-leveling function and S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology), thereby substantially enhancing product reliability.



Why APACER?

- pioneering company in memory modules and SSD solutions
- top featured products for industrial use
- storage media with high reliability and data safety

SD and Micro SD cards



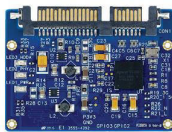
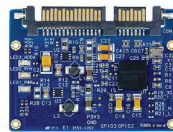
Apacer, the global leader in memory module, offers new industrial μSD card designed for embedded systems in harsh storage environments. Features include high reliability, high storage and resistance to extended temperatures. These advantages enable the new cards to be widely applied to industrial, military, communication, surveillance, medical devices and car navigation, thereby satisfying the storage need of demanding industrial enterprises.

Compliant with Ver.2.0 and Ver.3.0 standards standard and SDHC Class 10 high-speed transmission standard as defined by the SD Association, the new SD cards from Apacer also supports SD and SPI modes. Available in capacities from 256 MB to 32 GB, the new SD cards can substantially accelerate data transfer.





Serial ATA Flash Drive



Model	SAFD 251	SAFD 254	SAFD 25P/ SAFD 25P-M"	SAFD 25M2	SAFD 25M4/ SAFD 25M4-M"
					
Interface	SATA 1.5Gb/S	SATA 3Gb/s			
Connector	(7+15) pin male				
Physical Form Factor (inch)	2,5	2,5	2,5	2,5	2,5
Capacities	256MB-32GB	8GB-64GB	SLC: 32GB-256GB MLC: 16GB-512GB"	4GB-16GB	SLC: 4GB-64GB MLC: 8GB-128GB"
Sustained Read/ Write Performance(MB/Sec)	35/25	160/135	SLC:265/230 MLC: 260/220"	100/88	SLC:160/150 MLC: 155/80"
ECC Support	8bit/512Bytes	8-15bit/512Bytes	16-24bit/1K Bytes	8-15bit/512Bytes	16-24bit/1K Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70	0... + 70	0... + 70	0... + 70
Extended Op Temp. (°C)	-	-40... + 85	SLC:-40... + 85 MLC:-40... + 85* (* = Supports 32GB-256GB)"	-	SLC:-40... + 85 MLC:-40... + 85* (* = Supports 16GB-64GB)"
Shock	1,500G	1,500G	1,500G	50G	50G
Vibration	15G	15G	15G	15G	15G
MTBF(Hours)	> 2,000,000	> 2,000,000	SLC:> 2,000,000 MLC:>1,000,000"	> 2,000,000	SLC: > 2,000,000 MLC:>1,000,000"

Model	SAFD 181	SAFD 18P/ SAFD 18P-M"	SAFD 18S (JEDEC MO-297)"	SAFD 18S4/ SAFD 18S4-M (JEDEC MO-297)"
				
Interface	SATA 3Gb/s			
Connector	(7+9) pin male		(7+15) pin male	
Capacities	8GB-32GB	SLC:8GB-128GB MLC:16GB-256GB"	4GB-16GB	SLC:4GB-64GB MLC:8GB-128GB"
Sustained Read/ Write Performance(MB/Sec)	168/143	SLC:260/215 MLC:250/165"	100/88	SLC:165/150 MLC:155/80"
ECC Support	8-15bit/512Bytes	16-24bit/1K Bytes	8-15bit/512Bytes	16-24bit/1K Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70	0... + 70	0... + 70
Extended Op Temp. (°C)	SLC:-40... + 85	SLC:-40... + 85 MLC:-40... + 85* (* = Supports 32GB-128GB)"	-	SLC:-40... + 85 MLC:-40... + 85* (* = Supports 16GB~64GB)"
Shock	50G	50G	50G	50G
Vibration	15G	15G	15G	15G
MTBF(Hours)	> 2,000,000	SLC:> 2,000,000 MLC:>1,000,000"	> 2,000,000	SLC:> 2,000,000 MLC:>1,000,000"




mSATA(MO-300)

Model	M1	M4/M4-M
		
Interface	SATA 3Gb/s	SATA 3Gb/s
Form Factor	Mini PCIe (50.8mm x 29.8mm)	Mini PCIe (50.8mm x 29.8mm)
Connector	mSATA	mSATA
Capacities	4GB-16GB	SLC: 4GB-64GB MLC: 8GB-128GB"
Sustained Read/ Write Performance(MB/Sec)	100/88	SLC: 165/150 MLC: 155/80"
ECC Support	8-15bit/512Bytes	16 or 24bit/1K Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70
Extended Op Temp. (°C)	--	SLC: -40... + 85 MLC: -40... + 85* (*= Supports 16GB-64GB)"
Shock	50G	50G
Vibration	15G	15G
MTBF(Hours)	> 2,000,000	SLC:> 2,000,000 MLC:>1,000,000"

SATA Disk Chip

Model	SDC	SDC4
		
Interface	SATA 3Gb/s	SATA 3Gb/s
Physical Form Factor	18 / 32 round DIP connector	18 / 32 round DIP connector
Capacities	1GB-8GB	2GB-32GB
Sustained Read/ Write Performance(MB/Sec)	53/45	85/80
ECC Support	8-15 bit/512Bytes	16 or 24 bit/1K Bytes
Extended Op Temp. (°C)	-40... + 85	-40... + 85
Storage Temp.(°C)	-40... + 100	-40... + 100
Shock	50G	50G
Vibration	15G	15G
Humidity	5%-95%	5%-95%
MTBF(Hours)	> 2,000,000	> 2,000,000

SATA Disk Module

Model	SDMI	SDMII	SDM4
			
Interface	SATA 1.5Gb/s	SATA 3Gb/s	SATA 3Gb/s
Connector	7-pin/22-pin	7-pin	22-pin
Capacities	128MB-8GB	512MB-4GB	1GB-16GB
Sustained Read/ Write Performance(MB/Sec)	Standard: 20/10 High Speed: 35/10"	27/23	100/88
ECC Support	8bit/512Bytes	8bit/512Bytes	8-15bit/512Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70	0... + 70
Extended Op Temp. (°C)	--	--	SLC: -40... + 85 MLC: -40... + 85* (*= Supports 8GB-32GB)"
Storage Temp.(°C)	-40... + 100	-40... + 100	-40... + 100
Shock	50G	50G	50G
Vibration	15G	15G	15G
MTBF(Hours)	> 2,000,000	> 2,000,000	> 2,000,000



ATA Flash Drive

Model	AFD III		AFD 4
			
Model Type	AFD 183	AFD 253	AFD 18M-M
Interface	Standard ATA/ IDE	Standard ATA/ IDE	Standard ATA/ IDE
Connector	ZIF 40-pin	44-pin male	ZIF 40-pin
Physical Form Factor (inch)	1,8	2,5	1,8
Capacities	1GB-32GB	256MB-64GB	4B-64GB
Sustained Read/ Write Performance(MB/Sec)	35/25	SLC: 35/20	75/25
Transfer Mode	PIO Mode-4; MWDMA Mode-2 ; UDMA Mode-4"	PIO Mode-4; MWDMA Mode-2 ; UDMA Mode-4"	PIO Mode-4; MWDMA Mode-2 ; UDMA Mode-6"
ECC Support	8bit/512Bytes	8bit/512Bytes	12bit/512Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70	0... + 70
Extended Op Temp. (°C)	-40... + 85	-40... + 85	-
Shock	50G	1500G	50G
Vibration	15G	15G	15G
MTBF(Hours)	> 2,000,000	> 2,000,000	> 2,000,000







ATA Disk Chip

Model	ADC 3G
	
Connector	600mil 32-round pin DIP connector
Capacities	128MB-8GB
Sustained Read/ Write Performance(MB/Sec)	55/40
Transfer Mode	PIO Mode-4; MWDMA Mode-2 ; UDMA Mode-5
ECC Support	24bit/1K Bytes
Standard Op Temp. (°C)	0... + 70
Extended Op Temp. (°C)	-40... + 85
Storage Temp.(°C)	-40... + 100
Shock	50G
Vibration	15G
Humidity	5%-95%
MTBF(Hours)	> 2,000,000



ATA Disk Module

Model	ADM III	ADM 4/ADM4-M
		
Interface	Standard ATA / IDE	Standard ATA / IDE
Connector	40-pin (2.54mm pitch) / 44-pin (2.00mm pitch)	44-pin (2.00mm pitch)
Capacities	128MB-16GB	SLC:1GB-16GB MLC: 4GB-32GB"
Transfer mode	PIO Mode-4 ; MWDMA Mode-2; UDMA Mode-4	PIO Mode-4 ; MWDMA Mode-2; UDMA Mode-6
Sustained Read/Write Performance (MB/sec)	standard: 20/10 ; High Speed: 35/10	SLC:80/50 MLC:75/25"
ECC Support	8bit/512Bytes	12bit/512 Bytes or 24bit/1K Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70
Extended Op Temp. (°C)	-40... + 85	SLC:-40... + 85
Storage Temp.(°C)	-40... + 100	-40... + 100
Shock	50G	50G
Vibration	15G	15G
MTBF(Hours)	> 2,000,000	SLC: > 2,000,000 MLC:>1,000,000"


SATA Disk Module

Model	CFC III	CFC 4	CFC5	CompactFlash 5	ATA CF	CFAST
						
Connector	50-pin	50-pin	50-pin	50-pin	50-pin	(7+17) pin male
Interface	PC Card Memory mode PC Card I/O mode True IDE mode"	PC Card Memory mode PC Card I/O mode True IDE mode"	PC Card Memory mode PC Card I/O mode True IDE mode"	PC Card Memory mode PC Card I/O mode True IDE mode"	True IDE mode	SATA 3Gb/s
Capacity	128MB-16GB	256MB-16GB	128MB-64GB	4GB-64GB	128MB-16GB	1GB-32GB
Transfer mode	PIO Mode-6 ; MWDMA Mode-4; UDMA Mode-4"	PIO Mode-6 ; MWDMA Mode-4; UDMA Mode-6"	PIO Mode-6 ; MWDMA Mode-4; UDMA Mode-5"	PIO Mode-6 ; MWDMA Mode-4; UDMA Mode-6"	PIO Mode-4 ; MWD- MA Mode-2; UDMA Mode-4	--
Sustained Read/Write Performance(MB/sec)	Standard: 35/15 High Speed: 35/25"	50/21	50/30	75/47	Standard: 20/10 High Speed: 35/10"	120/95
ECC Support	8bit/512Bytes	8-15bit/512Bytes	24bit/ 1K Bytes	8bit/512Bytes	8bit/512Bytes	28bit/1K Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70	0... + 70	0... + 70	0... + 70	0... + 70
Extended Op Temp. (°C)	-40... + 85	-40... + 85	-40... + 85	-40... + 85* (*=Supports 8GB- -32GB)"	-40... + 85	-40... + 85
Storage Temp.(°C)	-40... + 100	-40... + 100	-40... + 100	-40... + 100	-40... + 100	-40... + 100
Shock	50G	50G	50G	50G	50G	50G
Vibration	15G	15G	15G	15G	15G	15G
Humidity	5%-95%	5%-95%	5%-95%	5%-95%	5%-95%	5%-95%
MTBF(Hours)	> 2,000,000	> 2,000,000	> 2,000,000	> 1,000,000	> 2,000,000	> 2,000,000


Industrial SD Card

Model	Industrial SD	Industrial SD-M
		
Card Specification	SD 2.0 Compliance	SD 2.0 Compliance
Capacities	"SD: 256MB- -2GB SDHC:4GB- -8GB"	SDHC:4GB- -32GB
Sustained Read/ Write Performance(MB/Sec)	Up to 25/13	Up to 18/9
ECC Support	24bit/1K Bytes	24bit/1K Bytes
Standard Op Temp. (°C)	0... + 70	0... + 70
Extended Op Temp. (°C)	-40... + 85	-40... + 85* (*=Supports 4GB-32GB)"
Storage Temp.(°C)	-40... + 100	-40... + 100
Shock	50G	50G
Vibration	15G	15G
Humidity	25%-95%	25%-95%
WP Switch Cycles	Min. 1,000 cycles	Min. 1,000 cycles

Industrial MicroSD Card

Model	Micro SDHC
	
Card Specification	SD 3.0 Compliance
Capacity	4GB-16GB
Flash Type	MLC
Max. R/W Performance (MB/sec)	19/13
ECC Support	Enhanced
Standard Op. Temp (°C)	-25-+85
Extended Op. Temp (°C)	-
Storage Temp(°C)	-40-+85
Insertion/Removal Test	10 000
Bonding Test	10 nt/s times for 6 faces and 4 corners
Humidity	40°C/93% RH 500hrs
Salt-Spray	3+/-1%NaCl; 35°C; 24hrs
Dimensions (mm)	15(L)x11(W)x1(H)

USB Disk Module

Model	UDMII Plus/UDMII Plus-M
	
Interface	USB 2.0 (Up to 480Mb/s)
Connector	10-pin USB (2 x 5 header)
Connector Pitch(mm)	Type A,B,C,D,D LP:2.54 Type E:2.0"
Capacities	SLC: 256MB-8GB MLC:4GB-32GB"
Sustained Read/ Write Performance(MB/Sec)	SLC: 30/25 MLC:30/20"
Standard Op Temp. (°C)	0... + 70
Extended OP Temp. (°C)	SLC:-40... + 85
Storage Temp. (°C)	-40... + 100
Shock	50G
Vibration	15G
Humidity	5%-95%
MTBF(Hours)	SLC> 2,000,000 MLC>1,000,000"