

# Faster and New SATA Flash Storage

The anti-vibration IEI SLC flash modules featured low power consumption, high performance and perfect reliability are best for SATA SSD and SATA DOM solutions. The SSD not only has much higher performance than the HDD, but also can be operated anytime due to the lack of moving parts such as motor, bearing or rotating head. In addition, the SSD is able to fulfill any specialized application in any harsh environment.

## Complete Industrial SLC Solution

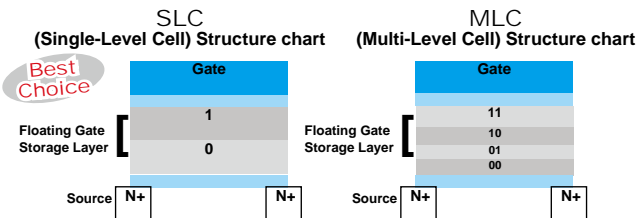


SLC Only



Interface	IDE PATA	SATA 1.5Gb/s	SATA 3Gb/s
Data Transfer Rate	66/100/133 MB/sec.	SATA 6Gb/s	SATA 6Gb/s 3Gb/s
Reliability	Fair	Better	Better
Power Consumption	Higher	Lower	Lower
Heat Delivery	Fair	Better	Better
Chipset Support after 945G/GM	No	Yes	Yes

## SLC vs. MLC Comparison Table



	SLC	MLC
Endurance (Erase cycle)	100,000	5,000-10,000
Operating Temp. Range	Support Wide Temp. -40°C~+85°C	0°C~+70°C
Power Consumption	Lower	Higher
Read/Write Performance	Better	Worse

## IEI SATA Flash Module Selection

Item	IFM-3010IS(W)/IFM-3010IL(WL) IFM-3010IPS(WPS)	iFD-2510IS (WT)	IFD-2520IS (WS)
Picture			
Capacity	1GB~32GB	8GB~128GB	1GB~32GB
Interface	SATA 6Gb/s	SATA 3Gb/s	SATA 6Gb/s
IDE Transfer Mode	PIO Mode 0-4 MwDMA Mode 0-2 UltraDMA Mode 0-2	PIO Mode 0-4 UltraDMA Mode 0-6	PIO Mode 0-4 UltraDMA Mode 0-6
Data Transfer Rate	Read-300MB/sec. ; Write-130MB/sec.	Read-60MB/sec. ; Write-40MB/sec.	Read-510MB/sec. ; Write-340MB/sec.
Operating Temp.	-0°C~+70°C ; -40°C~+85°C	iFD-2510IS: 0°C~+70°C iFD-2510WT: -40°C~+85°C	iFD-25102S: 0°C~+70°C iFD-2520WT: -40°C~+85°C
Storage Temp.	-55°C~+95°C	-55°C~+95°C	-55°C~+95°C
Humidity	10%~95%, non-condensing	10%~95%, non-condensing	10%~95%, non-condensing
Vibration	20G	20G (7~2000Hz)	20G (7~2000Hz)
Shock	1500G/10 ms	1500G/0.5 ms	1500G/0.5 ms
ECC Technology	High reliability based on the internal ECC function		High reliability based on the internal ECC function
MTBF	>3,000,000 hours	>2,000,000 hours	>3,000,000 hours
R/W Endurance	2,000,000 times	2,000,000 times	2,000,000 times
Wear-Leveing	Support	Support	Support
DC Input Voltage	+5V single power supply operation	+5V single power supply operation	+5V single power supply operation
Power Mode	Auto stand-by and sleep mode		
Power Consumption	200 mA		
Enclosure Material	PC mechanical cover	Metal mechanical cover	Metal mechanical cover
Dimensions (WxLxH)	20.5 x 39.2 x 8 mm	69.63 x 99.88 x 9.3 mm	69.8 x 100.1 x 9.3 mm
Certificate	RoHS / CE / FCC		

### Ordering Information

#### • Industrial SATA Flash Card

Part No.	Interface	Capacity
IFM-3010IS-XXXX	Vertical SATA 6Gb/s 7 pin	1G~32G
IFM-3010WS-XXXX	Vertical SATA 6Gb/s 7 pin	1G~32G
IFM-3000ILVS-XXXXX	Vertical SATA 6Gb/s 7 pin	1G~32G
IFM-3010WL-XXXX	Vertical SATA 6Gb/s 7 pin	1G~32G
IFM-3010IPS-XXXX	Horizontal SATA 6Gb/s 7 pin	1G~32G
IFM-3010WPS-XXXX	Horizontal SATA 6Gb/s 7 pin	1G~32G

#### • Industrial SATA 2.5" Flash Disk

Part No.	Interface	Capacity
IFD-2510IS-XXXXX	SATA 3Gb/s 7+15 pin	8GB~128GB
IFD-2510WT-XXXXX	SATA 3Gb/s 7+15 pin	8GB~64GB
IFD-2520IS-XXXX	SATA 6Gb/s 7+15 pin	8GB~64GB
IFD-2520WS-XXXX	SATA 6Gb/s 7+15 pin	8GB~64GB

XXXXX=Capacity-128MB/256MB/512MB/1GB/2GB/4GB/8GB/16GB/32GB/64GB/128GB  
 I= Standard grade operation temp.: 0°C~70°C  
 W=Industrial grade operation temp.: -40°C~85°C

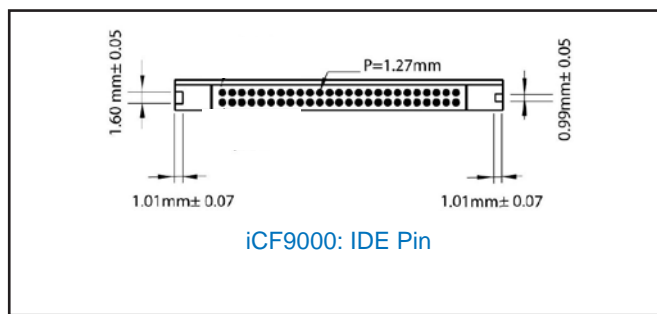
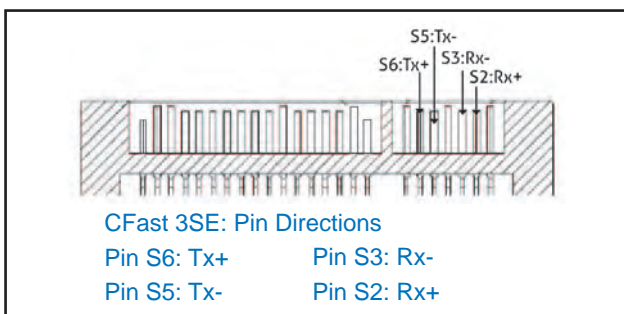
# Industrial CFast & CF Card Series

## ■ Similar size, different read and write speeds

With a similar size, CFast is mainly different from CF card in its interface, connector, and most importantly, faster read and writespeeds. CFast, with SATA 6Gb/s interface and 7-pin plus 17-pin connector, offers data transfer rates of sequential reads up to 470 MB/sec and of sequential writes up to 250 MB/sec. CF card, with PATA interface and 50-pin CF connector, offers data transfer rates of sequential reads up to 100 MB/sec and of sequential writes up to 95 MB/sec.

## ■ ATA Security for CF card

The optional ATA Security Mode feature set is a password system that restricts access to user data stored on a device. The purpose is to prevent unauthorized access or a virus



Model Name	ICT-2000 AS	ICT-2000 AM	ICF-9000	ICF-1000+		
Picture		New				
Capacity	2GB-64GB	8GB-128GB	4GB-32GB	128MB-32GB	256MB-8GB	
Sequential R/W (Max.)	285/260 MB/sec	310/240 MB/sec	110/100 MB/sec	40/28 MB/sec	30/15 MB/sec	
Flash Type	SLC	MLC	SLC	SLC	SLC	
IDE Transfer Mode	Yes	Yes	PIO mode 0-6 MwDMA mode 0-4 UltraDMA mode 0-7	PIO mode 0-4 MwDMA mode 0-4 UltraDMA mode 0-4	PIO Mode 0-6 MwDMA Mode 0-4 UltraDMA Mode 0-4	
Operation Temp.	0°C~+70°C (Standard) / -40°C~+85°C (Industrial)					
Storage Temp.	-40°C~+100°C		-55°C~+95°C		-40°C~+100°C	
Vibration/Shock (7/2000Hz)/(0.5ms)	Vibration: 15(G), 10-2000(Hz) Shock: 1,500 G, 0.5 ms		1500G/0.5ms		1500G/0.5ms	
DC Power Input	Supply voltage: 3.3V		ICF:+3.3V~+5V single power supply operation		Supply voltage: 3.3V & 5V	
Power Consumption (Max.)	390mA	525mA	1.05W (5V@210mA)		95 mA	
Dimensions (mm)	42.8 x 36.4 x 3.6		42.8 x 36.4 x 3.3		42.8 x 36.4 x 3.3	
ATA Security	Yes	Yes	Yes	Yes	Yes	
S.M.A.R.T	Yes	Yes	Yes	Yes	No	
P/N	STD (0°C~+70°C)	ICT-2000IA-2GB ICT-2000IA-4GB ICT-2000IA-8GB ICT-2000IA-16GB ICT-2000IA-32GB ICT-2000IA-64GB	ICT-2000IAM-8GB ICT-2000IAM-16GB ICT-2000IAM-32GB ICT-2000IAM-64GB ICT-2000IAM-128GB	ICF-9000CD-4GB ICF-9000CD-8GB ICF-9000CD-16GB ICF-9000CD-32GB	ICF-1000IPD-1GB-R20 ICF-1000IPD-2GB-R20 ICF-1000IPD-4GB-R20 ICF-1000IPD-8GB-R20	ICF-1000IA-128MB-R20 ICF-1000IA-256MB-R20 ICF-1000IA-512MB-R20 ICF-1000IA-1GB-R20 ICF-1000IA-2GB-R20 ICF-1000IA-4GB-R20 ICF-1000IA-8GB-R20
	WT (-40°C~+85°C)	ICT-2000WA-2GB ICT-2000WA-4GB ICT-2000WA-8GB ICT-2000WA-16GB ICT-2000WA-32GB ICT-2000WA-64GB	ICT-2000WAM-8GB ICT-2000WAM-16GB ICT-2000WAM-32GB ICT-2000WAM-64GB ICT-2000WAM-128GB	ICF-9000WD-4GB ICF-9000WD-8GB ICF-9000WD-16GB ICF-9000WD-32GB	ICF-1000WPD-1GB-R20 ICF-1000WPD-2GB-R20 ICF-1000WPD-4GB-R20 ICF-1000WPD-8GB-R20	ICF-1000WA-128MB-R20 ICF-1000WA-256MB-R20 ICF-1000WA-512MB-R20 ICF-1000WA-1GB-R20 ICF-1000WA-2GB-R20 ICF-1000WA-4GB-R20 ICF-1000WA-8GB-R20

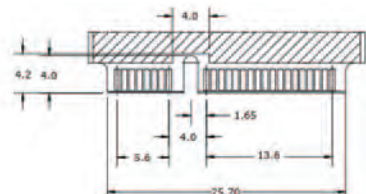
# Industrial Mini PCIe DOM & mSATA Series

## Co-layout design of Mini PCIe DOM and mSATA

For manufacturers or system integrators, the exciting benefit is they can have a circuit board with co-layout design of Mini PCIe DOM and mSATA. This feature allows users to enjoy wider applications by installing optional Mini PCIeDOM or mSATA in the same placement site.

## Mini PCIe DOM: For conventional main board, better performance than CF card

We have realized IPC customers need a steady supply for their design-in cases by using Mini PCIe DOM or CF card as boot drive or storage. However, Mini PCIe DOM obviously has better performance in read/write over 4 times than CF card. Boasting its easy use in plug-and-play and driverless (Windows XP and above), the Mini PCIe DOM is no doubt the best choice for the conventional M/B. In the following table, we recommend one cost-effective MLC model and one reliable SLC model.



**mini PCIeDOM 1ME: Pin Directions**

Pin33: PETp0

Pin31: PETn0

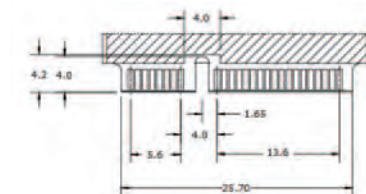
Pin23: PERn0

Pin25: PERp0

## mSATA: For space-limited main board, up to read/write speed of 470/220 MB/sec

Nowadays, more and more compact gadgets are designed to satisfy eager users. Smaller than a business card, the mSATA has become the must-have storage to deliver instant data transfers.

In the following table, we recommend five models categorized by the flash type and size.



**mSATA 3SE: Pin Directions**

Pin33: Rx+

Pin31: Rx-

Pin23: Tx+

Pin25: Tx-

Model Name	IPE-5300IM/WM	IPE-53101IM/IPE-5300IM	IPE-5200IP	IPE-5200IPM	
Picture			<b>New</b>	<b>New</b>	
Key Features	1. Excellent data transfer speed 2. High quality SLC-based solution	1. Excellent data transfer speed and IOPS 2. Budget- friendly MLC-based solution	1. PCI Express interface 2. Driver-less 3. Multi OS supported	1. PCI Express interface 2. Driver-less 3. Multi OS supported	
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	
Flash Type	SLC	MLC	SLC	MLC	
Capacity (GB)	2GB-32GB	8GB-128GB	8GB-64GB	8GB-64GB	
Sequential R/W	470/250	460/240	170/120	170/120	
Max. Power consumption	1.2 W (3.3V x 360 mA)	1.6 W (3.3V x 480 mA)	1.2W (3.3V x 370mA)	1.2W (3.3V x 370mA)	
Thermal Sensor	Wide Temp. Only	Wide Temp. Only	Wide Temp. Only	Wide Temp. Only	
ATA Security	Y	Y	Y	Y	
S.M.A.R.T	Y	Y	Y	Y	
Dimensions (mm)	29.8 x 50.8 x 4.4	29.8 x 50.8 x 4.4	29.7 x 50.8 x 4.4	29.7 x 50.8 x 4.4	
Environment	Vibration: 20G@7~2000Hz, Shock: 1500G@0.5ms, Storage Temperature: -55°C ~ +95°C, MTBF: >3 million hours				
P/N	STD (0°C~+70°C)	IPE-5300IM-1GB IPE-5300IM-2GB IPE-5300IM-4GB IPE-5300IM-8GB IPE-5300IM-16GB	IPE-5310IM-4GB IPE-5310IM-8GB IPE-5310IM-16GB IPE-5310IM-32GB IPE-5310IM-64GB IPE-5310IM-128GB	IPE-5200IP-2G-R21 IPE-5200IP-4G-R21 IPE-5200IP-8G-R21 IPE-5200IP-16G-R21 IPE-5200IP-32G-R21 IPE-5200IP-64G-R21	IPE-5200IPM-16G IPE-5200IPM-32G IPE-5200IPM-64G
	WT (40°C~+85°C)	IPE-5300WM-1GB IPE-5300WM-2GB IPE-5300WM-4GB IPE-5300WM-8GB IPE-5300WM-16GB	IPE-5310WM-4GB IPE-5310WM-8GB IPE-5310WM-16GB IPE-5310WM-32GB IPE-5310WM-64GB IPE-5310WM-128GB	WPE-5200WP-2G-R21 WPE-5200WP-4G-R21 WPE-5200WP-8G-R21 WPE-5200WP-16G-R21 WPE-5200WP-32G-R21 WPE-5200WP-64G-R21	