



2016  
**FLEXXON**  
Brochure

**FLE**  **ON**  
INDUSTRIAL MEDICAL AUTOMOTIVE



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## About Us

**flexxon** designs, manufactures and markets Industrial NAND Flash Storage Solutions products, serving specifically the INDUSTRIAL, MEDICAL & AUTOMOTIVE (IMA) applications and customers worldwide, who demand the very highest level of reliability, endurance and wide operating temperature ranges

### flexxon Flash-based Storage product range:

- SSD – SATA , PATA , PCIe
- SD Card / Micro SD card
- Compact Flash Card
- USB Flash Drive
- eMMC
- uSSD
- NAND Flash Modules
- Storage Cards
- Drive with variety of interfaces support.
- Special capacity and customized features according to customer requirement

## Quality and Product Reliability Assurance

Full Product qualification test , from component , system to production

Full Reliability Test , includes Mechanical Test , Environmental Test , Packaging and Printing test



## Industrial Application

**flexxon** Industrial-Grade Products designed for industrial customers meet extreme reliability and endurance requirements.

In particular, Flexxon's industrial products have undergone strict qualification testing to guarantee product reliability and longevity.



Automotive



ATM Machine



POS Machine



Medical



Musical Instrument



Test & Measurement



Payment Terminal



Vending Machine



Surveillance



Handheld Devices



Gaming



Embedded System



Rugged Computer



Solution Printer



Military



Digital Signage



INDUSTRIAL

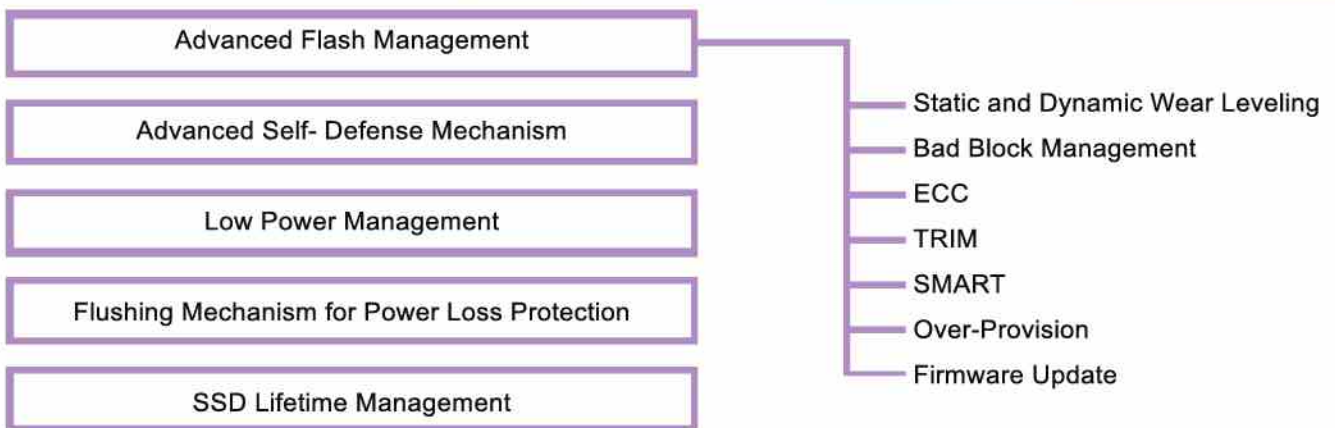


MEDICAL



AUTOMOTIVE

## Advance Product Functions



## Customization Services

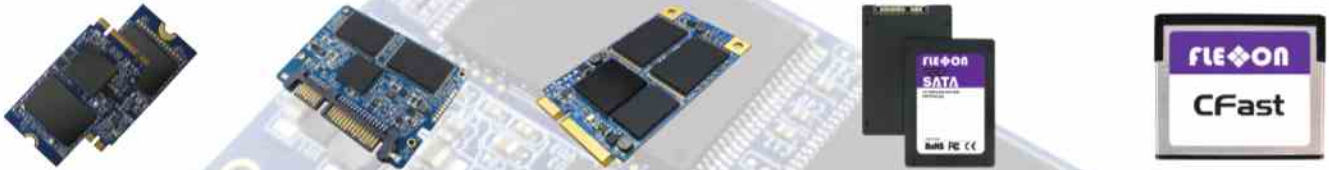
- ▶ F.W Customization to meet full compatibility of different customer platform requirement
- ▶ PCB re-layout design to meet different requirement
- ▶ Pre-loaded Content
- ▶ Label Printing
- ▶ Packaging
- ▶ Product ID / Parameters..etc
- ▶ Laser Etching
- ▶ Format Load

## Industrial Grade

INDUSTRIAL GRADE	TEMPERATURE
Diamond	-40°C ~ +85°C
Gold	-25°C ~ +85°C
Silver	0°C ~ 70°C



## SATA SSD



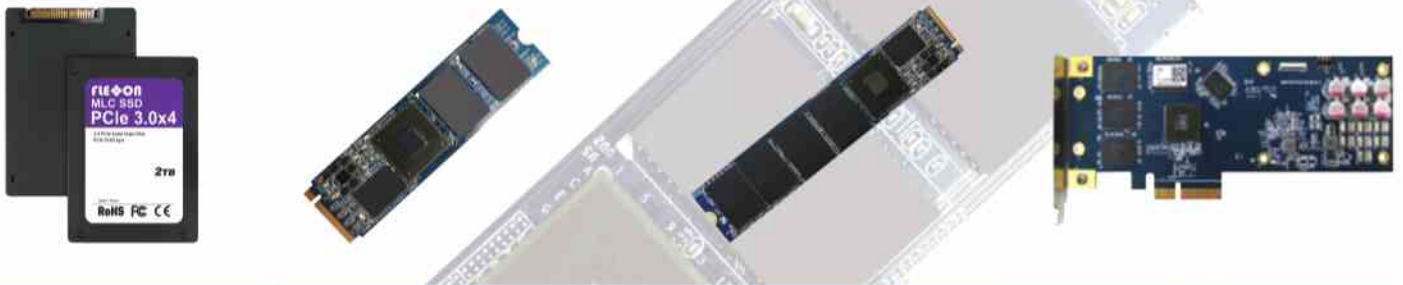
SATA Series	PREMIER	ACHIEVER	ELITE	VALUE
Feature	Standard performance & decent cost & low density; Perfect for cache SSD/module	High speed & density; Suitable for main storage applications;	Ultimate performance & high density; Best for enterprise applications;	Low cost & low density; Suitable for module and embeded system;
Interface	SATA III	SATA III	SATA III	SATA II
No of Channels	4	4	8 & 4	4
Form Factor	2.5", Half Slim, mSATA, mSATA mini, M.2 2242/2260/2280, CFast, SATA DOM, uSSD	2.5", Half Slim, mSATA	2.5", M.2 2280, mSATA, Half Slim	2.5", Half Slim, mSATA, SATA DOM
Flash Type	SLC, pSLC, MLC	SLC, MLC	MLC, pSLC	SLC, MLC
Capacity	SLC: 1GB ~ 128GB MLC: 4GB ~ 256GB pSLC: 2GB ~ 128GB	SLC: 30GB ~ 120GB MLC: 30GB ~ 1TB	MLC: 64GB ~ 2TB pSLC: 64GB ~ 1TB	SLC: 512MB ~ 64GB MLC: 4GB ~ 128GB
Max. Performance	Read: 530 MB/s Write: 195 MB/s	Read: 550 MB/s Write: 450 MB/s	Read: 550 MB/s Write: 530 MB/s	Read: 230 MB/s Write: 200 MB/s
Grade	Industrial (Silver & Diamond)	Industrial (Silver & Ruby)	Industrial (Silver & Diamond)	Industrial (Silver & Diamond)

## PATA SSD



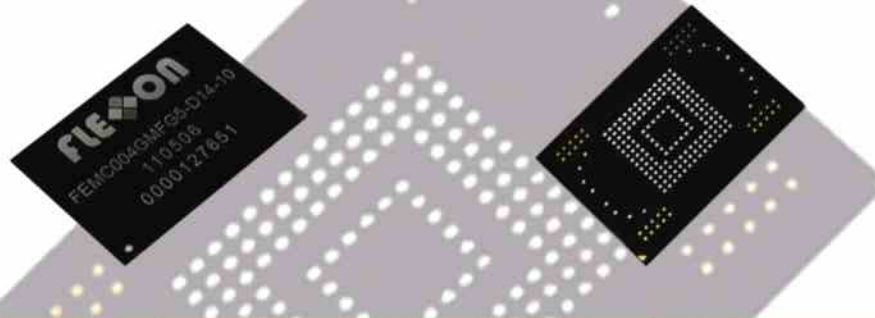
PATA Series	LEGACY			
Form Factor	2.5" PATA SSD	1.8" PATA SSD	CF Card	ATA Flash Module (40/44-Pin Vertical/Horizontal Modules)
Data Transfer Mode	Support PIO Mode 6, Multi-Word DMA Mode 4 & Ultra DMA Mode 7			
Grade	Industrial (Silver & Diamond)			
Flash Type	SLC, pSLC, MLC			
Capacity	SLC: 1GB ~ 256GB MLC: 4GB ~ 512GB pSLC: 2GB ~ 256GB	SLC: 1GB ~ 128GB MLC: 4GB ~ 256GB pSLC: 2GB ~ 128GB	SLC: 128MB ~ 64GB MLC: 4GB ~ 128GB pSLC: 2GB ~ 64GB	SLC: 4GB ~ 64GB MLC: 4GB ~ 128GB pSLC: 2GB ~ 64GB
Max. Performance	Read: 80 MB/s Write: 70 MB/s	Read: 80 MB/s Write: 90 MB/s	Read: 120 MB/s Write: 100 MB/s	Read: 80 MB/s Write: 90 MB/s

## PCIe SSD



PCIe Series	SONIC			
Form Factor	2.5" SSD	M.2 2280	M.2 22110	Add-In Card (AIC)
Feature	PCIe Gen 3x4, NVMe 1.2, PCI Express Base 3.0			
Grade	Commercial & Industrial Silver			
Flash Type	MLC			
Capacity	128GB ~ 2TB	128GB ~ 512GB	128GB ~ 1TB	128GB ~ 2TB
Max. Performance	Read: 2500 MB/s Write: 1200 MB/s	Read: 2500 MB/s Write: 720 MB/s	Read: 2500 MB/s Write: 1200 MB/s	Read: 2500 MB/s Write: 1200 MB/s

## eMMC



eMMC Series	XTRA I	XTRA II
Interface	eMMC 4.5	eMMC 5.0
Flash Type	MLC, pSLC	MLC, pSLC
Pin Count	153-ball, 169-ball	169-ball
Capacity	MLC: 4GB ~ 64GB pSLC: 4GB ~ 16GB	MLC: 16GB ~ 64GB pSLC: 8GB ~ 32GB
Max. Performance	Read: 140 MB/s Write: 40 MB/s	Read: 240 MB/s Write: 120 MB/s
Grade	Industrial (Gold & Diamond)	Industrial (Gold & Diamond)

# Memory Card



Series	FX-8035	FX-8210	FX-8039	FX-8036
Feature	Small capacity SLC solution; Standard performance	High performance	Standard performance	Extreme performance
Interface	SD 3.0	SD 3.0	SD 3.0	SD 4.0
Speed Class	up to class10	up to class10	up to class10	up to class10
UHS mode	UHS-I	UHS-I	UHS-I	UHS-II (HD312/FD156)
No of Channels	1	2	1	1
Card Form Factor	microSD	SD/microSD	SD/microSD	SD
Flash Type	SLC	SLC, pSLC, MLC	MLC	MLC
Capacity	128MB ~ 8GB	SLC: 128MB ~ 32GB MLC: 2GB ~ 128GB pSLC: 2GB ~ 64GB	2GB ~ 128GB	32GB ~ 256GB
Max. Performance	Read: 21 MB/s Write: 21 MB/s	Read: 95 MB/s Write: 90 MB/s	Read: 80 MB/s Write: 40 MB/s	Read: 285 MB/s Write: 100 MB/s
Grade	Industrial (Gold & Diamond)	Industrial (Gold & Diamond) / Commercial	Commercial	Commercial
Function	<u>Industrial Grade</u> Support SmartInfo Tool(SD Life Monitor Tool) Support Auto-Read Refreshment Support Unexpected Power Off Management			

# USB



Series	FX-2251-03	FX-2251-07	FX-2251-08	FX-2251-68
Feature	Enhance Reliability: Crystal solution	High performance	Ultra high performance	Standard performance
Interface	USB 2.0	USB 3.0	USB 3.0	USB 2.0
No of Channels	2		1	2
Form Factor	USB Flash Module	Pen Driver	Pen Driver	Pen Driver
Flash Type	SLC, pSLC, MLC		MLC	MLC
Capacity	SLC: 256MB ~ 32GB MLC: 4GB ~ 64GB pSLC: 2GB ~ 32GB	SLC: 128MB ~ 32GB MLC: 4GB ~ 128GB pSLC: 2GB ~ 64GB	4GB~64GB	16GB~256GB
Max. Performance	Read: 30 MB/s Write: 24 MB/s	Read: 190 MB/s Write: 125 MB/s	Read: 250 MB/s Write: 80 MB/s	Read: 400 MB/s Write: 300 MB/s
Grade	Industrial (Silver & Diamond)		Commercial	Commercial

## FLEXXON SSD Technology



Multi Core Design



End to End Data Protection

Your data is important to us, so we protect it all the way.



pFAIL Circuit Design



SSD Endurance

Drive Writes per Day



SmartRefresh™



Error Correction Design: SmartECC™

Layer and layer of correction schemes to fight against any errors that may have been caused by NAND flash.

## FLEXXON Memory Card Technology

### SMART Info Tool

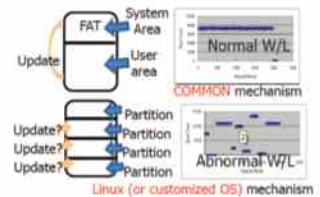
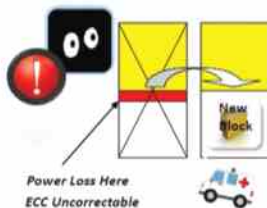
FLEXXON SD card SMART Info Tool can read reliability of SD card by estimating remaining life ratio, good block ratio, erase count etc...

Does not require any special hardware tool to read SD card, all the information can be read by standard card reader.



X is correctable bit errors

Read Refreshment



### Auto-Read Refresh Management

When bit errors are approaching the pre-set threshold level during read operations, FLEXXON firmware will move the data to a new block, and reset the old one.

Excellent for GPS and Navigation system.

### Data Clone System Management

During power interrupted writes, uncorrectable ECC may occur, especially MLC with pair page issue. Upon recovery of power, FLEXXON firmware will copy the valid data prior to UECC uncorrectable page to new block and erase the old block.

### Embedded Mode Management

For special OS, embedded mode will help to ensure that wear leveling is performed with every write command. This will greatly increase the life cycle of the cards.

# Contact Us

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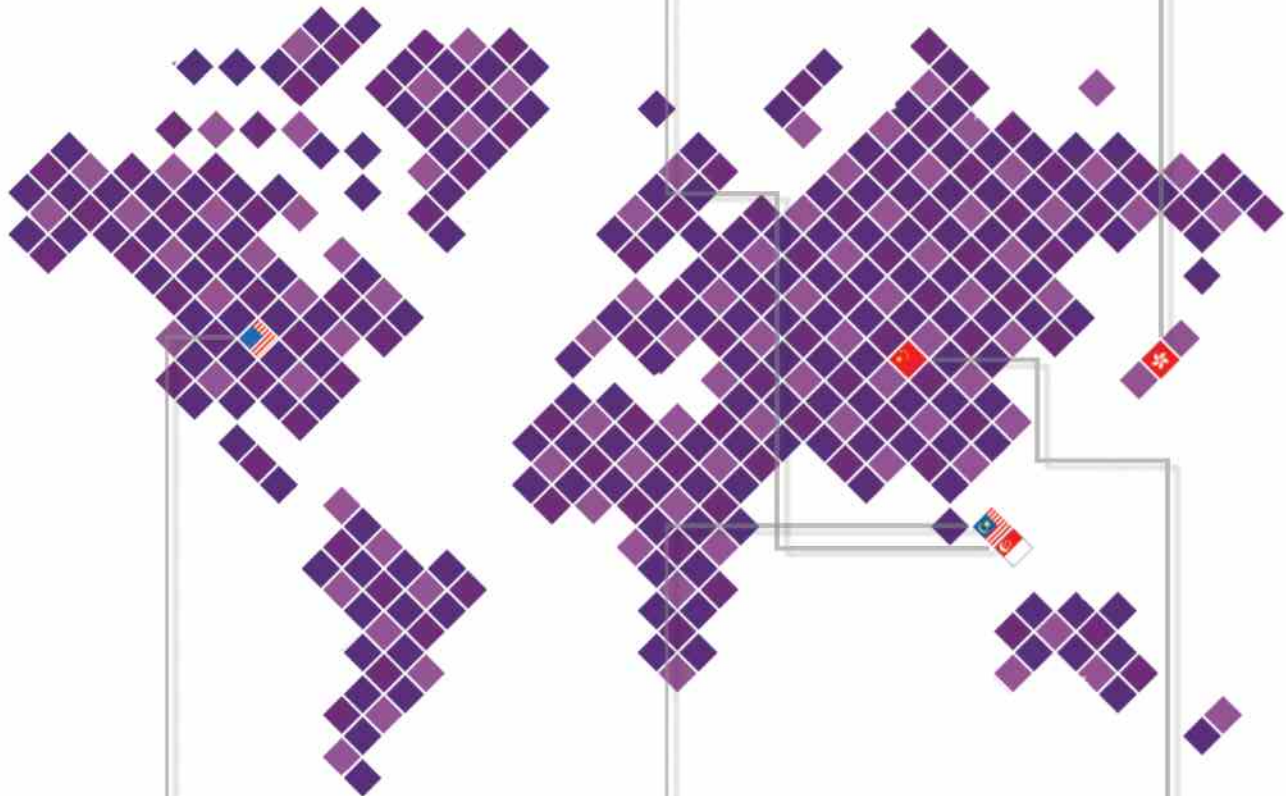
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## Why FLEXXON ?

- ✓ Long Product Life
- ✓ Fixed BOM
- ✓ Industrial Grade
- ✓ Special Capacity & Customize Memory Solution
- ✓ Strong Technical Support
- ✓ Support HMLV (High-Mixed Low Volume)