



INDUSTRIAL

MEDICAL

AUTOMOTIVE



PRODUCT CATALOGUE

Industrial NAND Flash Storage & Memory Manufacturer

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
- ✓ NAND Flash Modules
- ✓ eMMC
- ✓ 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 Test, Printing Test, etc

QUALITY

RELIABILITY

EXPERTISE

COMMITMENT



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



Solution Printer



Military



Digital Signage



Rugged Computer



Product Features

Industrial Grade

Industrial Grade	Temperature
Diamond	-40°C ~ +85°C
Gold	-25°C ~ +85°C
Silver	0°C ~ 70°C



Advance Product Functions

Advanced Flash Management

Advanced Self - Defense Mechanism

Low Power Management

Flushing Mechanism for Power Loss Protection

SSD Lifetime Management

- Static and Dynamic Wear Leveling
- Bad Block Management
- ECC
- TRIM
- SMART
- Over-Provision
- Firmware Update

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



SD / microSD Card Series

Comparison of SD / microSD Series

Series	FxPro I	FxPro II	FxBasic I	FxStd
Feature	High Performance	Extreme Performance	Standard Performance	Standard Performance
Interface	SD 3.0	SD 4.0	SD 3.0	SD 3.0
Speed Class	up to Class 10	up to Class 10	up to Class 10	up to Class 10
UHS mode	UHS-I	UHS-II	UHS-I	UHS-I
No of Channels	2	1	1	2
Max. Performance	Read: 95 MB/s	Read: 286 MB/s	Read: 80 MB/s	Read: 80 MB/s
	Write: 90 MB/s	Write: 118 MB/s	Write: 40 MB/s	Write: 60 MB/s
Grade	Industrial (Gold & Diamond) / Commercial	Commercial	Commercial	Industrial (Gold & Diamond)
Function (Industrial FxPro I)	Support SmartInfo Tool (SD Life Monitor Tool)			
	Support Auto-Read Refreshment			
	Support Unexpected Power Off Management			

SD / microSD Product Overview

Series	Form Factor	Capacity			MAX Read/Write (MB/s)		
		MLC	pSLC	SLC	MLC	pSLC	SLC
FxPro I	SD	1GB ~ 128GB	2GB ~ 64GB	128MB ~ 32GB	95/ 90	95/ 90	65/ 55
	MicroSD	1GB ~ 64GB	2GB ~ 32GB	128MB ~ 4GB	95/ 90	95/ 90	50/ 40
FxBasic I	SD	1GB ~ 128GB	-	-	80/ 40	-	-
	MicroSD	1GB ~ 64GB	-	-	80/ 40	-	-
FxPro II	SD	16GB ~ 256GB	-	-	286/ 118	-	-
	MicroSD	16GB ~ 128GB	-	-	286/ 118	-	-
FxStd	SD	4GB ~ 128GB	4GB ~ 16GB	-	80/ 60	80/ 45	-
	MicroSD	4GB ~ 32GB	4GB ~ 16GB	-	70/ 30	80/ 45	-



Industrial SD Card (FxPro I Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management; SMART Function; Auto-Read Refresh
- ✓ Support SD 3.0
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 3.0, 9-pin		
Form Factor	SD Flash Card		
Flash Type	MLC, pSLC, SLC		
Capacity	MLC: 1GB ~ 128GB	pSLC: 2GB ~ 64GB	SLC: 128MB ~ 32GB
Max. Performance (Vary by flash & density)	MLC: Read: 95MB/s, Write: 90MB/s	pSLC: Read: 95MB/s, Write: 90MB/s	SLC: Read: 65MB/s, Write: 55MB/s
Operating Voltage	2.7 ~ 3.6V		
Operating Temp.	Gold grade: -25 ~ 85°C		Diamond grade: -40 ~ 85°C
Storage Temp.	-40 ~ +85°C		
Humidity	0% ~ 95%		
Shock	1500G/0.5ms		
Vibration	80~2000Hz/20G		
Dimensions	32mm(L) x 24mm(W) x 2.1mm(H)		
MTBF(hours)	3,000,000hrs		

Ordering Information

Flash	Capacity	Part Number	
		Gold Grade	Diamond Grade
MLC	1GB	FDMS001GTTG7-103-18	FDMS001GTTE7-103-18
	2GB	FDMS002GTTG7-103-18	FDMS002GTTE7-103-18
	4GB	FDMS004GTTG7-103-11	FDMS004GTTE7-103-11
	8GB	FDMS008GTTG7-103-11	FDMS008GTTE7-103-11
	16GB	FDMS016GTTG7-103-11	FDMS016GTTE7-103-11
	32GB	FDMS032GTTG7-103-21	FDMS032GTTE7-103-21
	64GB	FDMS064GTTG7-103-41	FDMS064GTTE7-103-41
	128GB	FDMS128GTTG7-103-81	FDMS128GTTE7-103-81
pSLC	2GB	FDMS002GTTG7-103-15	FDMS002GTTE7-103-15
	4GB	FDMS004GTTG7-103-15	FDMS004GTTE7-103-15
	8GB	FDMS008GTTG7-103-15	FDMS008GTTE7-103-15
	16GB	FDMS016GTTG7-103-25	FDMS016GTTE7-103-25
	32GB	FDMS032GTTG7-103-45	FDMS032GTTE7-103-45
	64GB	FDMS064GTTG7-103-85	FDMS064GTTE7-103-85

Flash	Capacity	Part Number	
		Gold Grade	Diamond Grade
SLC	128MB	FDMS128MTSG2-103-11	FDMS128MTSE2-103-11
	256MB	FDMS256MTSG2-103-11	FDMS256MTSE2-103-11
	512MB	FDMS512MTSG2-103-11	FDMS512MTSE2-103-11
	1GB	FDMS001GTSG2-103-21	FDMS001GTSE2-103-21
	2GB	FDMS002GTSG2-103-41	FDMS002GTSE2-103-41
	4GB	FDMS004GTSG2-103-81	FDMS004GTSE2-103-81
	8GB	FDMS008GTSG2-103-21	FDMS008GTSE2-103-21
	16GB	FDMS016GTSG2-103-41	FDMS016GTSE2-103-41
	32GB	FDMS032GTSG2-103-81	FDMS032GTSE2-103-81

SD Card (FxBasic I Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management;
- ✓ Support SD 3.0
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

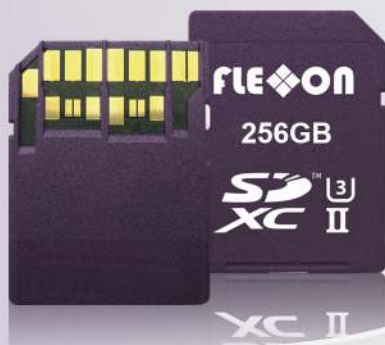
Interface	SD 3.0, 9-pin	
Form Factor	SD Flash Card	
Flash Type	MLC	
Capacity	1GB ~ 128GB	
Max. Performance (Vary by flash & density)	Read: 80MB/s	Write: 40MB/s
Operating Voltage	2.7 ~ 3.6V	
Operating Temp.	0 ~ 70°C	
Storage Temp.	-25 ~ +85°C	
Humidity	0% ~ 95%	
Shock	1500G/0.5ms	
Vibration	80~2000Hz/20G	
Dimensions	32mm(L) x 24mm(W) x 2.1mm(H)	
MTBF(hours)	2,000,000hrs	

Ordering Information

Flash	Capacity	Part Number
MLC	1GB	FDMS001GTTC7-393-18
	2GB	FDMS002GTTC7-393-18
	4GB	FDMS004GTTC7-393-10
	8GB	FDMS008GTTC7-393-10
	16GB	FDMS016GTTC7-393-10
	32GB	FDMS032GTTC7-393-20
	64GB	FDMS064GTTC7-393-40
	128GB	FDMS128GTTC7-393-80



SD Card (FxPro II Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management;
- ✓ Support SD 4.0
- ✓ UHS-II (HD312/FD156), Backward compatibility with UHS-I
- ✓ Support 4K2K and UltraHD recorders and UHS Speed Grade 3 application
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 4.0, 17-pin	
Form Factor	SD Flash Card	
Flash Type	MLC	
Capacity	16GB ~ 256GB	
Max. Performance (Vary by flash & density)	Read: 286MB/s	Write: 118MB/s
Operating Voltage	V_{DD1} : 2.7V ~ 3.6V	V_{DD2} : 1.7 ~ 1.95V
Operating Temp.	-25 ~ 85°C	
Storage Temp.	-25 ~ 85°C	
Humidity	0% ~ 95%	
Shock	1500G/0.5ms	
Vibration	80~2000Hz/20G	
Dimensions	32mm(L) x 24mm(W) x 2.1mm(H)	
MTBF(hours)	2,000,000hrs	

Ordering Information

Flash	Capacity	Part Number
MLC	16GB	FDMS016GTTC7-363-20
	32GB	FDMS032GTTC7-363-40
	64GB	FDMS064GTTC7-363-80
	128GB	FDMS128GTTC7-363-80
	256GB	FDMS256GTTC7-363-A0

Industrial SD Card (FxStd Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management
- ✓ Support SD 3.0
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 3.0, 9-pin	
Form Factor	SD Flash Card	
Flash Type	MLC	pSLC
Capacity	MLC: 4GB~128GB	pSLC: 4GB~16GB
Max. Performance (Vary by flash & density)	MLC	pSLC
	Read: 80MB/s, Write: 60MB/s	Read: 80MB/s, Write: 45MB/s
Operating Voltage	2.7 ~ 3.6V	
Operating Temp.	Gold grade: -25 ~ 85°C	Diamond grade: -40 ~ 85°C
Storage Temp.	-40 ~ +85°C	
Humidity	0% ~ 95%	
Shock	1500G/0.5ms	
Vibration	80~2000Hz/20G	
Dimensions	32mm(L) x 24mm(W) x 2.1mm(H)	
MTBF(hours)	2,000,000hrs	

Ordering Information

Flash	Capacity	Part Number	
		Gold Grade	Diamond Grade
MLC	4GB	FDMS004GMFG5-D31-10	FDMS004GMFE5-D31-10
	8GB	FDMS008GMFG5-D31-10	FDMS008GMFE5-D31-10
	16GB	FDMS016GMFG6-D31-10	FDMS016GMFE6-D31-10
	32GB	FDMS032GMFG6-D31-20	FDMS032GMFE6-D31-20
	64GB	FDMS064GMFG6-D31-40	FDMS064GMFE6-D31-40
	128GB	FDMS128GMFG6-D31-80	FDMS128GMFE6-D31-80
pSLC	4GB	FDMS004GMFG5-D31-13	FDMS004GMFE5-D31-13
	8GB	FDMS008GMFG5-D31-23	FDMS008GMFE5-D31-23
	16GB	FDMS016GMFG5-D31-23	FDMS016GMFE5-D31-23

Industrial microSD Card (FxPro I Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management; SMART Function; Auto-Read Refresh
- ✓ Support SD 3.0
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 3.0, 8-pin		
Form Factor	microSD Flash Card		
Flash Type	MLC	pSLC	SLC
Capacity	MLC: 1GB ~ 64GB	pSLC: 2GB ~ 32GB	SLC: 128MB ~ 4GB
Max. Performance (Vary by flash & density)	MLC	pSLC	SLC
	Read: 95MB/s, Write: 90MB/s	Read: 95MB/s, Write: 90MB/s	Read: 50MB/s, Write: 40MB/s
Operating Voltage	2.7 ~ 3.6V		
Operating Temp.	Gold grade: -25 ~ 85°C		Diamond grade: -40 ~ 85°C
Storage Temp.	-40 ~ +85°C		
Humidity	0% ~ 95%		
Shock	1500G/0.5ms		
Vibration	80~2000Hz/20G		
Dimensions	15mm (L) x 11mm (W) x 1mm (H)		
MTBF(hours)	3,000,000hrs		

Ordering Information

Flash	Capacity	Part Number	
		Gold Grade	Diamond Grade
MLC	1GB	FDMM001GTTG7-103-18	FDMM001GTTE7-103-18
	2GB	FDMM002GTTG7-103-18	FDMM002GTTE7-103-18
	4GB	FDMM004GTTG7-103-11	FDMM004GTTE7-103-11
	8GB	FDMM008GTTG7-103-11	FDMM008GTTE7-103-11
	16GB	FDMM016GTTG7-103-21	FDMM016GTTE7-103-21
	32GB	FDMM032GTTG7-103-41	FDMM032GTTE7-103-41
	64GB	FDMM064GTTG7-103-81	FDMM064GTTE7-103-81
pSLC	2GB	FDMM002GTTG7-103-15	FDMM002GTTE7-103-15
	4GB	FDMM004GTTG7-103-15	FDMM004GTTE7-103-15
	8GB	FDMM008GTTG7-103-25	FDMM008GTTE7-103-25
	16GB	FDMM016GTTG7-103-45	FDMM016GTTE7-103-45
	32GB	FDMM032GTTG7-103-85	FDMM032GTTE7-103-85

Flash	Capacity	Part Number	
		Gold Grade	Diamond Grade
SLC	128MB	FDMM128MTSG2-103-11	FDMM128MTSE2-103-11
	256MB	FDMM256MTSG2-103-11	FDMM256MTSE2-103-11
	512MB	FDMM512MTSG2-103-11	FDMM512MTSE2-103-11
	1GB	FDMM001GTSG2-103-21	FDMM001GTSE2-103-21
	2GB	FDMM002GTSG2-103-41	FDMM002GTSE2-103-41
	4GB	FDMM004GTSG2-103-81	FDMM004GTSE2-103-81

microSD Card (FxBasic I Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management;
- ✓ Support SD 3.0
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 3.0, 8-pin	
Form Factor	microSD Flash Card	
Flash Type	MLC	
Capacity	1GB ~ 64GB	
Max. Performance (Vary by flash & density)	Read: 80MB/s	Write: 40MB/s
Operating Voltage	2.7 ~ 3.6V	
Operating Temp.	0 ~ 70°C	
Storage Temp.	-25 ~ +85°C	
Humidity	0% ~ 95%	
Shock	1500G/0.5ms	
Vibration	80~2000Hz/20G	
Dimensions	15mm (L) x 11mm (W) x 1mm (H)	
MTBF(hours)	2,000,000hrs	

Ordering Information

Flash	Capacity	Part Number
MLC	1GB	FDMM001GTTC7-393-18
	2GB	FDMM002GTTC7-393-18
	4GB	FDMM004GTTC7-393-10
	8GB	FDMM008GTTC7-393-10
	16GB	FDMM016GTTC7-393-10
	32GB	FDMM032GTTC7-393-20
	64GB	FDMM064GTTC7-393-40



microSD Card (FxPro II Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management
- ✓ Support SD 4.0
- ✓ UHS-II (HD312/FD156), Backward compatibility with UHS-I
- ✓ Support 4K2K and UltraHD recorders and UHS Speed Grade 3 application
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported.
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 4.0, 16-pin	
Form Factor	microSD Flash Card	
Flash Type	MLC	
Capacity	16GB ~ 128GB	
Max. Performance (Vary by flash & density)	Read: 286MB/s	Write: 118MB/s
Operating Voltage	V_{DD1} : 2.7V ~ 3.6V	V_{DD2} : 1.7 ~ 1.95V
Operating Temp.	-25 ~ 85°C	
Storage Temp.	-25 ~ 85°C	
Humidity	0% ~ 95%	
Shock	1500G/0.5ms	
Vibration	80~2000Hz/20G	
Dimensions	15mm (L) x 11mm (W) x 1mm (H)	
MTBF(hours)	2,000,000hrs	

Ordering Information

Flash	Capacity	Part Number
MLC	16GB	FDMM016GTTC7-363-20
	32GB	FDMM032GTTC7-363-40
	64GB	FDMM064GTTC7-363-80
	128GB	FDMM128GTTC7-363-A0

Industrial microSD Card (FxStd Series)



Product Features

- ✓ Advanced Flash Management: Static and Dynamic Wear Leveling; Bad Block Management
- ✓ Support SD 3.0
- ✓ Support SD SPI mode
- ✓ Designed for read-only and read/write cards
- ✓ Copyrights Protection Mechanism
- ✓ CPRM (Content Protection for Recordable Media) of SD Card supported.
- ✓ Card removal during read operation will never harm the content
- ✓ Password Protection of cards (option)
- ✓ Write Protect feature using mechanical switch
- ✓ Built-in write protection features (permanent and temporary)
- ✓ +4KV/-4KV ESD protection in contact pads
- ✓ RoHS Compliant

Specifications

Interface	SD 3.0, 8-pin	
Form Factor	microSD Flash Card	
Flash Type	MLC	pSLC
Capacity	MLC: 4-32GB	pSLC: 4-16GB
Max. Performance (Vary by flash & density)	MLC	pSLC
	Read: 70MB/s, Write: 30MB/s	Read: 80MB/s, Write: 45MB/s
Operating Voltage	2.7 ~ 3.6V	
Operating Temp.	Gold grade: -25 ~ 85°C	Diamond grade: -40 ~ 85°C
Storage Temp.	-40 ~ +85°C	
Humidity	0% ~ 95%	
Shock	1500G/0.5ms	
Vibration	80~2000Hz/20G	
Dimensions	15mm (L) x 11mm (W) x 1mm (H)	
MTBF(hours)	2,000,000hrs	

Ordering Information

Flash	Capacity	Part Number	
		Gold Grade	Diamond Grade
MLC	4GB	FDMM004GMFG5-D33-10	FDMM004GMFE5-D33-10
	8GB	FDMM008GMFG5-D33-10	FDMM008GMFE5-D33-10
	16GB	FDMM016GMFG5-D33-20	FDMM016GMFE5-D33-20
	32GB	FDMM032GMFG5-D33-40	FDMM032GMFE5-D33-40
pSLC	4GB	FDMM004GMFG5-D33-13	FDMM004GMFE5-D33-13
	8GB	FDMM008GMFG5-D33-23	FDMM008GMFE5-D33-23
	16GB	FDMM016GMFG5-D33-43	FDMM016GMFE5-D33-43

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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)