

FerriSSD®

Quick Reference

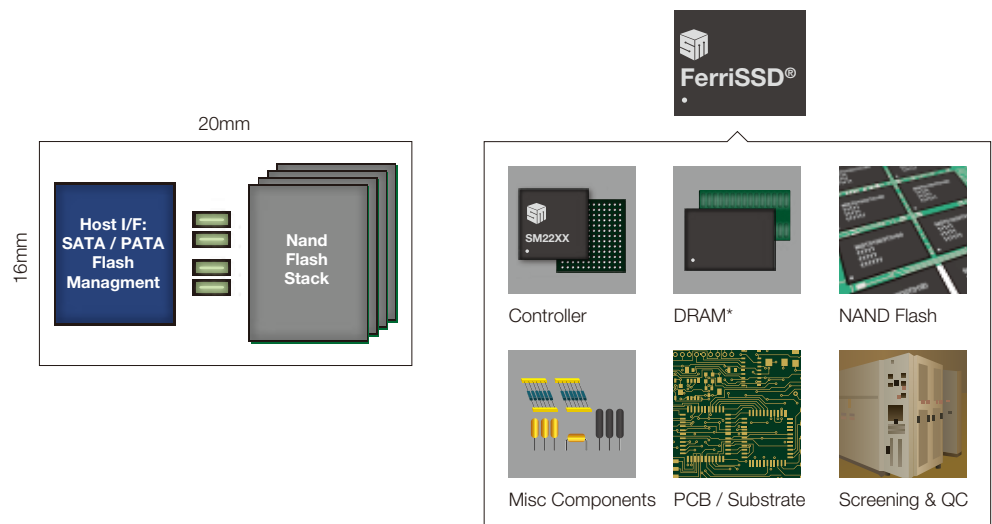


FerriSSD® BGA Solid-State Drive

The FerriSSD® is designed optimally for a wide range of embedded applications requiring faster access, small form factor and reliable SATA/PATA storage. By combining industry proven controller technology, NAND flash and passive components into a single BGA package with 1.0mm ball-pitch size, FerriSSD® simplifies design efforts, reduces time-to-market while protecting from NAND technology migration concerns. FerriSSD® also comes with advanced firmware features as well as the provision for customized firmware – enabling highly reliable and differentiable storage solutions.

The FerriSSD® family consists of the latest SM619 and SM659 series featuring SATA 6Gb/s transfer rate with embedded DRAM to enhance data storage efficiency and high random read/write IOPS of up to 75,000. Also available in the family are the SM651/SM631/SM611 SATA 3Gb/s series as well as the SM621/SM641/SM601 PATA series single-package SSDs. All FerriSSD® series support SLC, SLCmode™ and MLC NAND flash options.

SMI BGA-SSD Overview



*Available in SM619/SM659 series

Why FerriSSD®?

Easy to use

- Plug & Play only requires format/fdisk prior to use
- Small footprint for space-limited design

Lower total cost of ownership

- Rugged & Reliable (no moving parts)
- Eliminate requalification cost from NAND generation change
- Cost saving with low density FerriSSD, HDD are typically > 160GB capacity

Eliminate down time

- Supports self-monitoring, analysis and reporting technology commands (S.M.A.R.T.)
- Field programmable firmware available

Applications

Embedded applications that are currently using HDD but require only small density can migrate to FerriSSD® for customizable density with a small form factor !



Telecom & Server



Multifunction Printer



POS & Kiosk



Testing Instrument



Ind. Handheld Device



HMI & Thin Client



Ind. / Embedded MB



In-Vehicle Infotainment



Medical Equipment

Specifications

Data Retention	JESD47G compliant
Form Factor	20mm x 16mm BGA
Green Product	RoHs compliant / Halogen free
Temperature Support	Commercial Temp (0°C to +70°C) Industrial Temp (-40°C to +85°C)

Available Density

FerriSSD® Series	PATA	SATA 3Gb/s	SATA 6Gb/s with DRAM
SLC	SM621 (1-32GB)	SM631 (1-32GB)	--
SLCmode™	SM641 (1-64GB)	SM651 (1-64GB)	SM659 (8-64GB)
MLC	SM601 (4-128GB)	SM611 (2-128GB)	SM619 (16-128GB)

FerriSSD® Unique Features

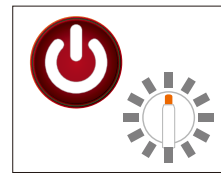
GENERAL FEATURES



Hardware Quick Erase



AES Encryption & Secured Zone Protection



Hardware Data Flush

ADVANCED FEATURES



Low Power Mode



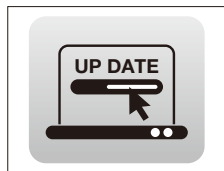
SLCmode™



SSDLifeGuard™ (Monitoring AP)



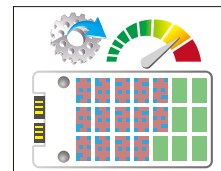
IntelligentScan + DataRefresh™



Advance Field FW Update



Built-in Temperature Sensor



IntelligentClean™

For more information about FerriSSD®, please go to www.siliconmotion.com or send e-mail to ferri@siliconmotion.com



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FerriSSD®

For Server Applications

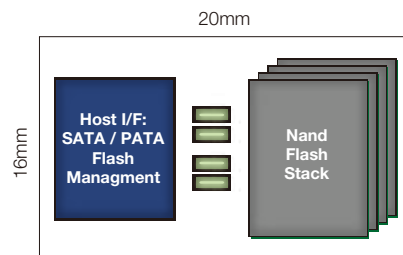


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SLC	SM621 (1-32GB)	SM631 (1-32GB)	--
SLCmode™	SM641 (1-64GB)	SM651 (1-64GB)	SM659 (8-64GB)
MLC	SM601 (4-128GB)	SM611 (2-128GB)	SM619 (16-128GB)

Server Applications

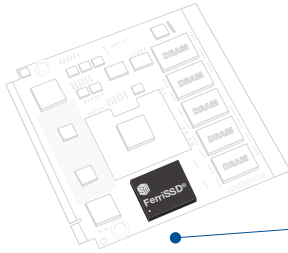
- Blade Server
- Router / Switch
- Application Server
- Telecom Base Station
- Network Firewall Server
- VoIP Server
- Business Telecom System

Specifications

Data Retention	JESD47G compliant
Form Factor	20mm x 16mm BGA
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Application Examples :

1



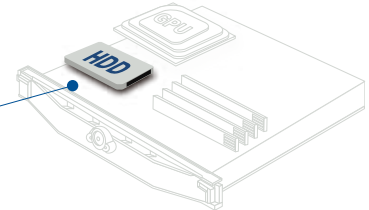
Serving as HDD on a space imited server board

20x16mm compact size makes a perfect fit for single board computer / embedded motherboard, and server board applications. With Intelligent Scan & DataRefresh™ algorithm, FerriSSD® is designed to meet the toughest embedded storage requirement.

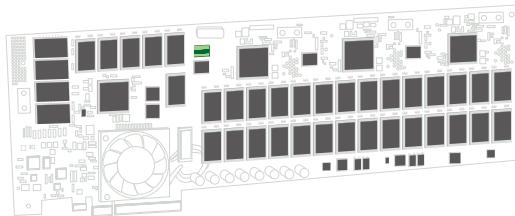
2

Replacing boot drive & serve as Data Caching

As a cost saving option, FerriSSD® serve as HDD replacement for OS/Application/log file and DRAM temp data cache.



3



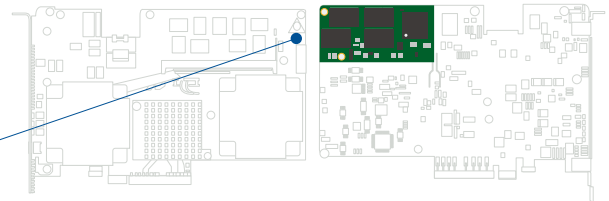
Replacing RAID SSD: multiple SSD controller + NAND

FerriSSD®'s compact size with extreme high IOPS enables a perfect RAID SSD/HDD replacement in Compact PCI / Slot CPU boards.

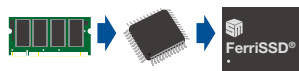
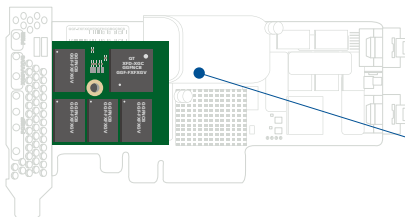
4

Replacing SSD controller + NAND for simple manufacturing

Coming in a single-BGA package, FerriSSD® is already initialized, 100% tested, screened out early failure to ensure extreme low dPPM defect during full usage life.



5



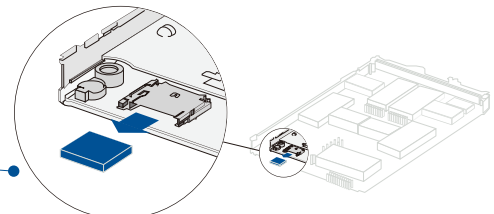
Serving as Server DRAM backup during sudden power lost

In the mission critical application, data lost is not acceptable even during sudden power lost. FerriSSD® extreme fast performance in a compact size is the best non volatile solution for DRAM data backup.

6

Replacing CF card on servers for cost down (reducing component) & performance improvement

FerriSSD® in PATA interface serve as direct replacement for CF at higher performance.



For more information about FerriSSD®, please go to www.siliconmotion.com or send e-mail to ferri@siliconmotion.com



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FerriSSD®

For Embedded Computing Applications

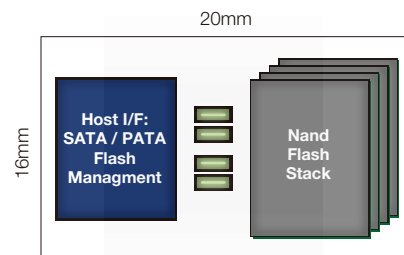


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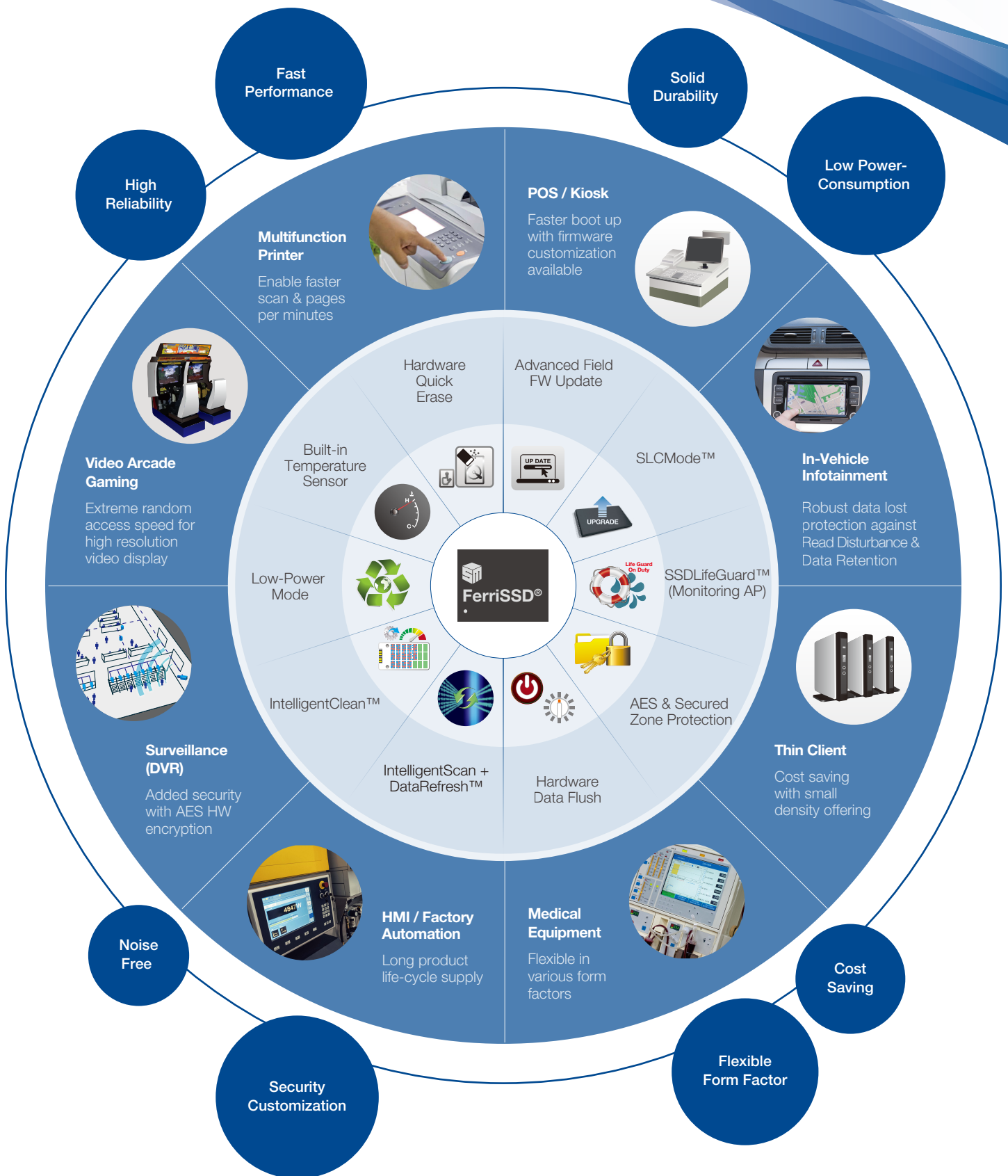
Embedded Computing Applications

- POS / Kiosk
- Video Arcade Gaming
- Multifunction Printer
- In-Vehicle Infotainment
- Surveillance (DVR)
- Thin Client
- HMI / Factory Automation
- Medical Equipment

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