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 ~ +70°C) Industrial Temp (-40°C ~ +85°C)

Available Density

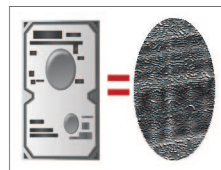| FerriSSD® Series	PATA	SATA 3Gb/s	SATA 6Gb/s with DRAM
SLC	SM621 (1~32GB)	SM631 (1~32GB)	--
SLCmode	SM641 (1~32GB)*	SM651 (1~32GB)*	SM659 (8~32GB)*
MLC	SM601 (4~64GB)**	SM611 (2~64GB)**	SM619 (16~64GB)**

*64GB in Q1'15; **128GB in Q4'14

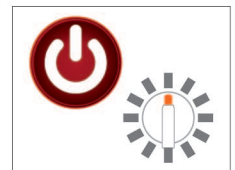## FerriSSD® Unique Features

GENERAL FEATURES

Hardware Quick Erase

Secured Erase

Secured Password Protection

Hardware Data Flush

ADVANCED FEATURES
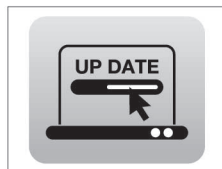
Full Slumber / Energy Save Mode
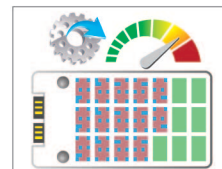
Full Disk AES Encryption

Diagnostic Port

SSDLifeGuard (Monitoring AP)

Advance Field FW Update

Built-in Temperature Sensor

Intelligent Clean

Intelligent Scan + DataRefresh

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

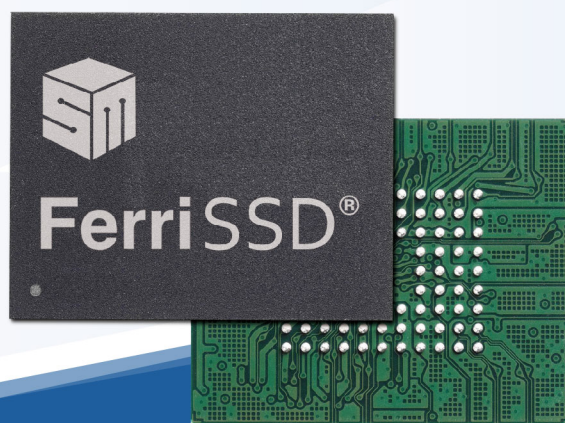**SiliconMotion**

www.siliconmotion.com

Silicon Motion, Inc.
8F-1, No. 36, Taiyuan St., Jhubei City,
Hsinchu County 30265, Taiwan
Tel: +886-3-5526888

SiliconMotion

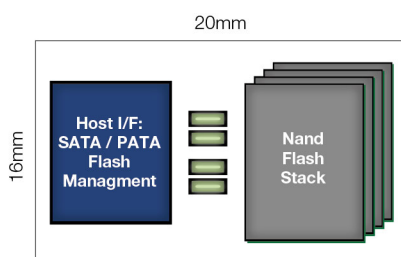# FerriSSD®

For Server Applications

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

20mm

16mm

Host I/F:
SATA / PATA
Flash
Managment

Nand
Flash
Stack

Available Density

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

*64GB in Q1'15; **128GB in Q4'14

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
Green Product	RoHs compliant / Halogen free
Temperature Support	Commercial Temp (0°C ~ +70°C) Industrial Temp (-40°C ~ +85°C)

Application Examples :

1
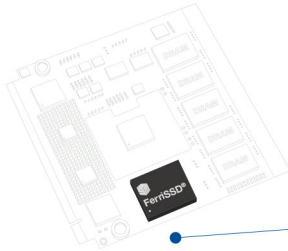
Serving as HDD on a space imited server board

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.
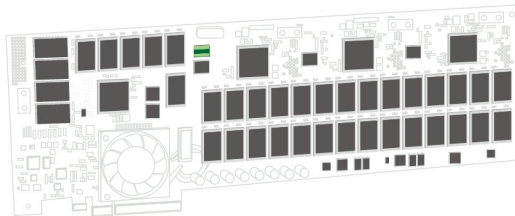
2

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.
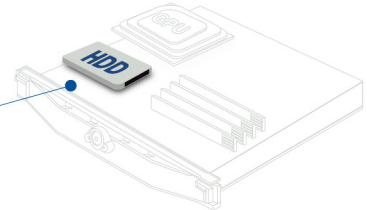
3

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.
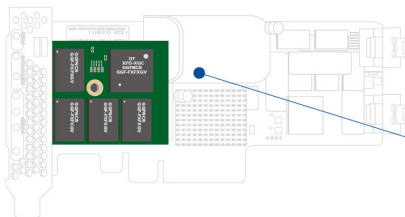
4

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.
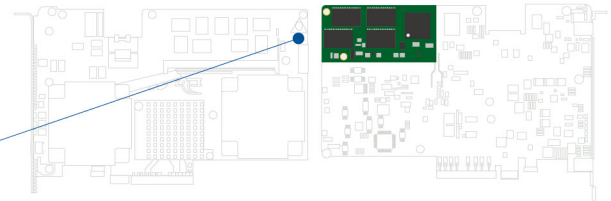
5

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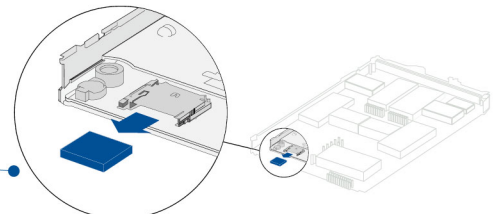
For more information about FerriSSD®, please go to www.siliconmotion.com or send e-mail to **ferri@siliconmotion.com**

SiliconMotion

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![SiliconMotion logo]

FerriSSD®

For Embedded Computing Applications

FerriSSD®
BGA Solid-State Drive

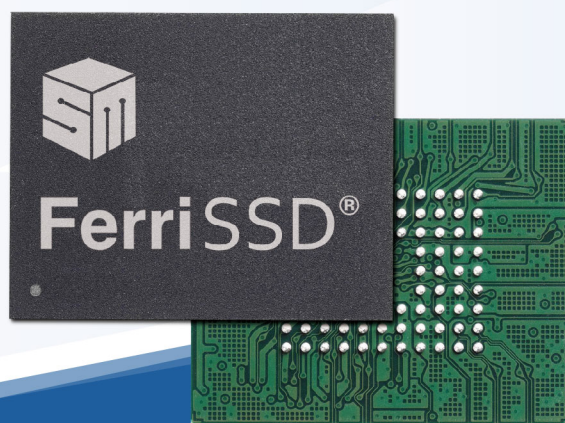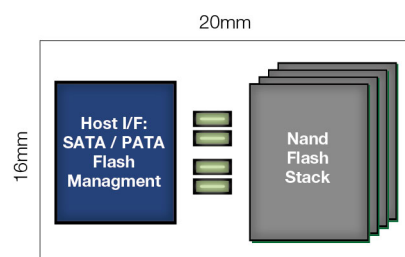The FerriSSD® is designed optimally for a wide range of embedded applications requiring faster access, small form factor and reliable SATA/PATA storage. By combining industry proven controller technology, NAND flash and passive components into a single BGA package with 1.0mm ball-pitch size, FerriSSD® 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.

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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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FerriSSD®

Application Examples :

Fast Performance

High Reliability

Solid Durability

Low Power-Consumption

Multifunction Printer
Enable faster scan & pages per minutes

POS / Kiosk
Faster boot up with firmware customization available

Video Arcade Gaming
Extreme random access speed for high resolution video display

In-Vehicle Infotainment
Robust data lost protection against Read Disturbance & Data Retention

Surveillance (DVR)
Added security with AES HW encryption

Thin Client
Cost saving with small density offering

HMI / Factory Automation
Long product life-cycle supply

Medical Equipment
Flexible in various form factors

Noise Free

Cost Saving

Security Customization

Flexible Form Factor

Inner wheel labels:

- Hardware Quick Erase
- Secured Password Protection
- Built-in Temperature Sensor
- Secured Erase
- Full Slumber / Energy Save Mode
- SSDLifeGuard (Monitoring AP)
- Life Guard On Duty
- Intelligent Clean
- Full Disk AES Encryption
- Intelligent Scan + DataRefresh
- Hardware Data Flush
- FerriSSD®

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