

FerriSSD®

For Server Applications



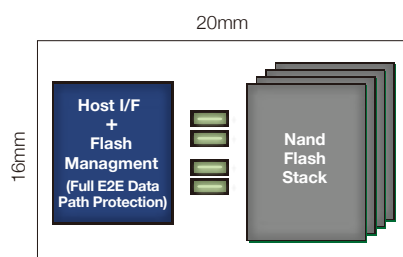
FerriSSD®

FerriSSD® Single-Chip SSD

The FerriSSD® is designed optimally for a wide range of embedded applications requiring faster access speed, small flexible form factor and reliable PCIe NVMe/SATA/PATA storage. By combining industry proven controller technology, NAND flash and passive components into a small single BGA package, FerriSSD® simplifies design efforts, reduces time-to-market while protecting from NAND technology migration concerns.

The FerriSSD® family consists of the latest SM689 PCIe NVMe, SM619 SATA and legacy SM601 PATA series featuring high throughput transfer rate with embedded DRAM to enhance data storage efficiency and high random read/write IOPS. The 4th generation FerriSSD leveraging Silicon Motion's most advanced technologies, including IntelligentScan, DataRefresh, high bandwidth LDPC ECC engine with SMI group RAID, and End-to-end data path protection to provide unsurpassed data integrity in a non-volatile storage device. All FerriSSD® series support 3D SLCmode, MLCmode, and TLCmode NAND flash options.

SMI Single-Chip SSD Overview



Available Density

3D SLCmode	4~80GB*
3D MLCmode	8~160GB**
3D TLCmode	16~256GB***

*160GB in Q1'2019
**320GB in Q1'2019
***512GB in Q1'2019

Server Applications

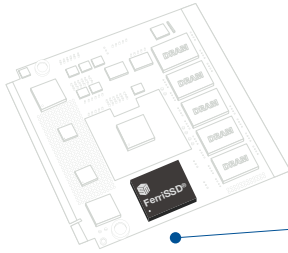
- Cloud Server
- Blade Server
- Router / Switch
- Application Server
- Telecom Base Station
- Network Firewall Server
- VoIP Server
- Business Telecom System

Specifications

Security	Digitally signed firmware with eFuse
Form Factor	20mm x 16mm BGA
Green Product	Compliant to RoHS (Restriction to Hazardous Substances Directive) 2.0 / Halogen free
Temperature Support	Commercial Temp (0°C to +70°C) Industrial Temp (-40°C to +85°C)

Application Examples :

1



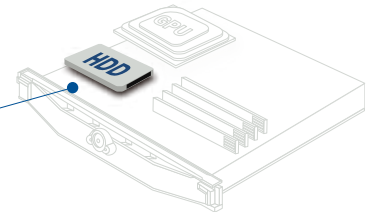
Serving as HDD on a space limited server board

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.

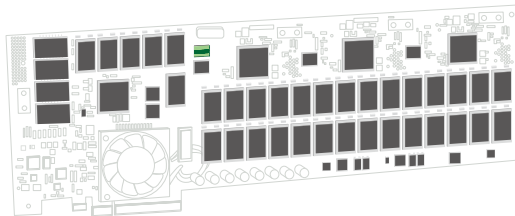
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Replacing boot drive & serve as Data Caching

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



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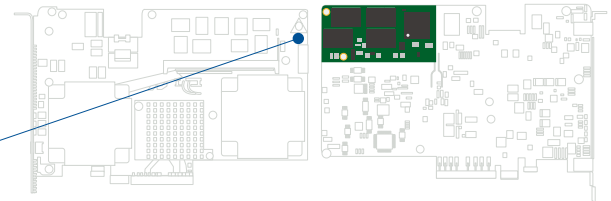
Replacing RAID SSD: multiple SSD controller + NAND

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

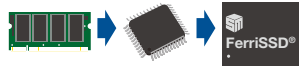
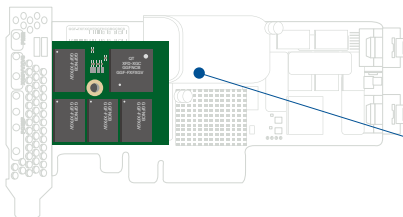
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Replacing SSD controller + NAND for simple manufacturing

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.



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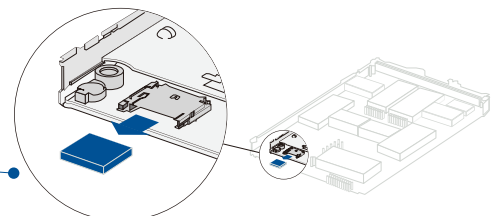
Serving as Server DRAM backup during sudden power loss

In the mission critical application, data loss is not acceptable even during sudden power loss. 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