



PRODUCT BRIEF | BGA Embedded SSD (eSSD)

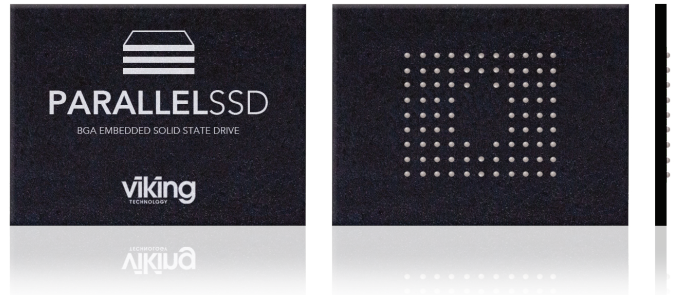
PARALLELSSD

BGA EMBEDDED SSD (ESSD)

Ultra High Density Package Solid State Drive for Military & Embedded Applications

Viking Technology ParallelSSD is an embedded solid state drive (eSSD) solution designed and optimized for a wide range of embedded/industrial applications. The ParallelSSD leverages advance NAND technologies and most update to date NAND geometry (iTLC) to deliver the highest capacity drives in the densest BGA package (20mm x 16mm).

The ParallelSSD is built with embedded OEMs in mind, supporting standard PCIe SATA and legacy PATA interface with ultra reliability and security features such as Opal 2.0, Opalite 1.0, and Pyrite 1.0. The drive is optimized to enable high throughput transfer rates with optional embedded DRAM to enhance data storage efficiency and high random read/write IOPS.



BENEFITS

Very small footprint: Saves up to 80% board space vs. Standard 2.5in. SSD	Ultra high NAND storage density per cu. in.	Supports PCIe SATA & Legacy PATA interface
Rugged: Soldered-down BGA eSSD	Commercial & Industrial (-40°C to +85°C) temperature range	Security features: Opal 2.0, Opalite 1.0, and Pyrite 1.0

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Why ParallelSSD

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 ParallelSSD, HDD are typically > 160GB capacity

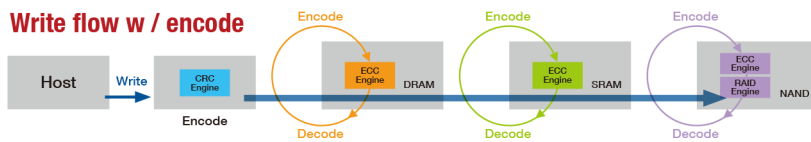
Eliminate Down Time

- ▶ Support S.M.A.R.T. and advanced SSD Telemetry logging features
- ▶ IntelligentScan with DataRefresh for Data integrity enhancement
- ▶ Full End-to-End data path protection with recovery algorithms
- ▶ LDPC ECC engine with Group Page RAID
- ▶ Remote firmware update available via secured digital signature

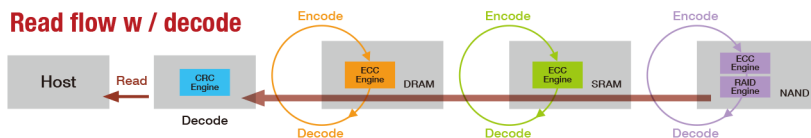
End-to-End Data Path Protection

The Viking Technology ParallelSSD incorporates full data error detection with recovery engines to provide enhanced data integrity throughout the entire Host-to-NAND-to-Host data path. The ParallelSSD data recovery algorithm can effectively detect any error in the SSD data path, including hardware (i.e. ASIC) errors, firmware errors and memory errors arising in SRAM, DRAM or NAND.

Write flow w / encode



Read flow w / decode



FORM FACTOR	SIZE (MM)	INTERFACE	NAND SUPPORT	CONTROLLER	CAPACITY	PERFORMANCE
BGA eSSD	16x20	SATA	iMLC/iSLC/iTLC	SMI (SM619GX)	Up to 480GB	Up to 550MB/s (Read)/450MB/s (Write)
BGA eSSD	16x20	PATA	iMLC/iSLC	SMI (SM601)	Up to 64GB	Up to 130MB/s (Read)/100MB/s (Write)
BGA eSSD	16x20	PCIe	MLC/SLC/TLC	Toshiba	Up to 1TB	Up to 1500MB/s

For price and availability, please email us at sales@vikingtechnology.com.



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