

ELEMENT SATADIMM

Solid State Storage Solutions for Enterprise Storage and Server Applications

SATADIMM is an Enterprise Class SATA Solid State Drive (SSD) in an industry-standard DDR3 240-pin Memory DIMM form factor. With high-capacity, high-performance, advanced flash management and wear leveling, this solution enables users to significantly increase the capacity and storage performance of their existing server, storage or cloud computing solution. By taking advantage of its smaller footprint and unique attributes, the SATADIMM allows system designers and integrators innovative options and ultimate flexibility when developing new server designs and/or upgrading current datacenter infrastructure.

By adding SATA to an existing DDR3 DIMM socket, Viking Modular has delivered the performance and power savings desired from an SSD at a fraction of the space required to house a typical 2.5-inch SSD. Innovative in both size, performance, and technology, SATADIMM is revolutionizing the way solid state drives are being utilized in enterprise storage and server applications.

High-Capacity
Enterprise SSD

60,000 IOPS

520MB/sec

Up to 480GB

6Gb SATA

DDR3 DIMM
Socket Integration

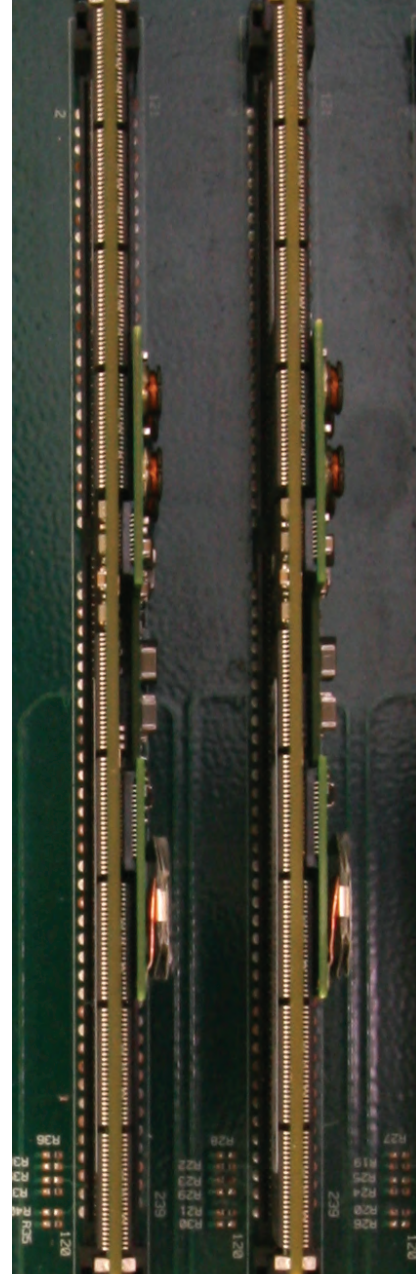
75% Smaller
Footprint than a
2.5-inch SSD

Bootable

STORAGE AND SERVER ENVIRONMENTS

Current storage infrastructure commonly accommodate existing 2.5-inch and 1.8-inch form factors derived from the legacy usage model of HDDs. Understanding the limitations of these form factors, Viking Modular developed the SATADIMM as an alternative to these traditional form factors, enabling additional flexibility to the enterprise market. SATADIMM enables solid state technology within current existing storage/servers systems, in which drive bays are maxed, without increasing existing infrastructure cost. The ability to do so, not only increases performance but greatly lowers the total cost of ownership (TCO) of the existing infrastructure. Other features include:

- Power fail data protection ensures data integrity
- Best in class sequential and random performance
- Enterprise MLC (eMLC) NAND flash supported
- Advanced SSD-specific SMART command support
- Intelligent write management techniques for optimized endurance
- Patented Protection against catastrophic flash sector/page/block failures
- Optional performance-throttling to guarantee service life
- Built-in AES encryption for secure data protection
- Compatible with SAS host systems and infrastructure
- Compatible with standard operating systems, TRIM command support
- Industry standard JEDEC MO-269 form factor



USAGE MODEL

With current deployed servers in the field, how can Enterprise user leverage higher performance and higher-capacity out of its existing servers while all drive bays are occupied?

One usage model is that in most existing deployed servers, there is at least 1+ empty DIMM socket under-utilized because of current x86 DDR3 motherboard limitations. It would be a costly and extremely complication process in developing new infrastructure to replace currently deployed servers. Viking Modular SATADIMM provides an upgradeable SSD option to existing servers by utilizing the empty DIMM socket enabling fast solid state performance and capacities unachievable by DRAM. The advanced features of the SATADIMM also enables the servers to take advantage of today's solid state attributes of wear leveling, fast bootable capability, power fail, and reduce energy consumption.

SPECIFICATIONS

SATADIMM 3Gb

SATADIMM 6Gb

Capacity	SLC	25GB to 200GB	Up to 400GB
	MLC / eMLC	50GB to 400GB	50GB to 480GB
Performance	Transfer Speeds	260 MB/s	520 MB/s
	Random IOPS	Up to 30,000 IOPS	Up to 60,000 IOPS
	Interface	SATA 3Gb	SATA 6Gb
Reliability	ECC	24 bit/512 byte	55 bit/512 byte
	Bit Error Rate (BER)	< 1 in 10 ¹⁷ bits read	< 1 in 10 ¹⁷ bits read
	Power Fail Data Protection		Yes
	Tiered Error Protection	Data recovery from sector, page, and block failures. End to end CRC protection.	
Endurance		5 Years	
Environmental	Shock	50g, 11ms, 3 shocks applied in each direction on 3 mutually perpendicular axes X, Y, Z	
	Vibration	16.4g rms 10-2,000 Hz, 3 axes	
	Operating Temperature	0°C to 70°C	-40°C to 85°C
	Altitude	80,000 feet	80,000 feet
	Humidity	5% to 95%	5% to 95%
	Test Standard	MIL-STD-810	MIL-STD-810
	Safety / Agency Compliance	FCC, CE, TUV	FCC, CE, TUV
Power	Voltage	1.25-3.3V + 5%	1.25-3.3V + 5%
	Active	<2.0 watts	<2.0 watts
	Idle	0.9 watts	0.9 watts
Dimensions	Length	133.35mm	133.35mm
	Height	25.5mm	18.75mm
	Width	7.75	6.75



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