NS570D HLSSD

Redefining Flash Storage from the inside out

- PCIe Gen2 x4 host interface with NVMe 1.1 support
- SFF-8639 (SATA/SAS/PCIe combo) 2.5" standard connector
- Breakthrough capacity and scalability — up to 6.4TB SSD in 2.5" form factor with a single SSD controller
- Revolutionary HyperLink NAND (HLNAND) technology — no practical limit on number of devices per channel with ring architecture
- Excellent performance — point-to-point connection provides excellent signal integrity—up to 1.6GB/s for sequential Read/Write
- Low power consumption — single controller, low voltage IO, un-terminated bus, data truncation, hierarchical MCP
- Reduced system cost — single controller, small footprint, reduced networking infrastructure for lower Total Cost of Ownership (TCO)
- Ultimate endurance — optimized for read/write balanced workloads up to 32,000 TBW
- Full End-to-End Data Protection - with advanced error correction scheme and in-transit data protection
- Ultra-high capacity Tier-0 to Tier-2 enterprise solid state storage solution
- Supported sector size: 512, 4096 Bytes
- Hardware-based 256-bit encryption Advanced Encryption Standard (AES) technology
- Self-encrypting models conform to TCG Opal 2.0 specification
- Hot-pluggable removal and insertion providing in-service replacement options
- Enhanced Power Loss Data Protection — securing data responded to host with internal power back-up solution
- Power and thermal throttling — auto peak power control by monitoring on-board temperature sensor
- HW-RAID —data protection beyond ECC and single die failure recovery
- 3.2TB/6.4TB capacity available in 9.5mm / 15.0mm z-heights for space-constrained applications

EXPRESS SERIES

As enterprises and data centers are increasingly investing in “Big Data” and other memory-intensive applications, they are adopting Solid-State-Drive (SSD) technology to power these initiatives. Novachips’ Express-series HLSSD is a unique solid state drive designed to deliver a massive storage capacity and performance revolution for enterprise applications. Express does this by combining unique HyperLink NAND flash memory technology with comprehensive endurance management firmware and power loss data protection techniques. The result is extended reliability, endurance, and sustained performance over the life of the SSD. The Novachips’ SSD family will enhance data center performance, conserve power and cooling resources and maximize space efficiency. Since Novachips brings proven SSD expertise in MLC SATA and PCIe design, firmware, reliability, customer qualification and system integration, the Novachips’ Express-series HLSSD family breaks the capacity bottlenecks associated with the conventional NAND flash IO constraints. Scale up your data center storage with the Novachips’ Express-series HLSSD family’s capacity and performance.

Specifications	2.5", (9.5mm z-Height)		2.5", (15.0mm z-Height)	
	1.6TB[1]	3.2TB[1]	3.2TB[1]	6.4TB[1]
Model Number	NS570D1T6MC1	NS570D3T2MC1	NS570D3T2MC2	NS570D6T4MC2
Interface	PCIe Gen2 x4			
NAND Flash Type	eMLC			
Performance[3]				
Seq. Read/Write 128KB (MB/s)	Up to 1600 / 1600			
Random Read/Write 4KB (IOPS)	TBD			
Avg. Latency Read/Write	40µs/40µs			
Reliability				
UBER	1 in 10^{18}			
MTBF[2]	2,000,000 hours			
Data Integrity	End-to-End Data Protection			
Lifetime Endurance[4]	8,000 TBW[1]	16,000 TBW[1]	16,000 TBW[1]	32,000 TBW[1]
Warranty	Lesser of 5 years or maximum endurance used			
Encryption	AES-256, TCG Opal 2.0			
Power & Environmental				
Power consumption (Active/Idle)	TBD			
Operating Temperature	0 to 70°C			
Non-Operating Temperature	-40 to 85°C			
Shock (G/0.5msec)	1500			
Physical				
Depth x Width x Height	100.45mm x 69.85mm x 9.5mm		100.45mm x 69.85mm x 15.0mm	
Weight	78g	88g	140g	165g

1. *One gigabyte (GB) is equal to one billion bytes, one terabyte (TB) equals 1,000GB (one trillion bytes), and one petabyte (PB) equals 1,000TB (one quadrillion bytes) when referring to hard drive or solid state drive capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the drive, the computer's operating system, and other factors.*
2. *MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under nominal operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.*
3. *Based on internal testing, performance may be lower depending upon host device, OS and application.*
4. *Based on JESD218 standard with JESD219 workload.*

Powered by HL NAND