NanoS SATA SLC & MLC Flash Disk SMT device

Product Overview

The Photon series NanoS SSD device presents SATA interface SMT package SLC/MLC Flash Disk. Asine flash drive delivers performance and proven reliability for data and mission critical systems. Added benefits of flexibility are built into Asine’s storage systems, including easy field firmware upgrades and expandable storage capacity as flash disk capacities increase. The NanoS drives support OEM application specific features such as AES-256 bit hardware encryption, fast sanitize erase, high grade industrial certified metal & workmanship, optional conduction cooling (no air flow required), BOM configuration awareness, and more. Product is compliant to JGPSSI-JIG,REACH and RoHS.

Photon series NanoS SATA

Applications

- Industrial & Commercial PC/Tablet Systems
- ATM, Gaming, Lottery
- Automotive, Navigation, Infotainment, ECU
- Point Of Sale- POS / Kiosk, Smart Terminals
- Medical
- Industrial & Airborne Systems
- Rugged Computer
- High-Speed Data Recording
- Security, HLS-Home Land Security
- Video Surveillance, JPEG2000 Capture
- Factory Automation
- JBOD, NAS, SAN, RAID
Features

- **Highest quality SLC & MLC Flash technology**
- 8GB to 120GB of non-volatile (per model) Flash memory at SMT package
- SATA1, SATA2 & SATA3 interfaces
- All modes to PIO & UDMA6 of SATA interface, ATA8 standard compliance
- **Fast sanitize erase** for entire media (few seconds typical) capacity dependent
- Operating temperature – Commercial 0°C to +70°C, Industrial -40°C to +85°C, and optional: Extreme up to +95°C case
- Storage temperature -55°C to +95°C
- Humidity 5% to 95% relative, non-condensing
- Altitude (operating & non-operating) 0 to 80,000 feet
- Typical 120 µsec access time
- High data transfer rate: Up to 250 MB/Sec burst, Read/Write up to 60 MB/Sec sustained (capacity, technology & file system dependent)
- IOPS 4KB random Read: 45,000, Write: 50,000.
- Reliability - MTBF - 1,000,000 hours MIL-HDBK271F
  - Embedded EDC/ECC, support up to 64-bit BCH Algorithm for Error Correction Code. Bad Block Mapping and Management
  - Built-in power-up self test and automatic self-diagnostics
  - Wear-Leveling Algorithm: Dynamic & Static wear leveling
- Power: up to 1.1 W max. @ 120GB power dissipation (depending on capacity) 0.8 W on Idle
- Up to 250TB SLC overall Write/Erase cycles with 60GB of SLC technology SSD; Read unlimited
- No special drivers - uses existing Windows, Linux, VxWorks®, and SATA drivers
- Heat dissipation balancing for demanding applications
- SSD unit sustain environmental
  - Shock - Half Sine, 50G peak, 11ms; Half Sine, 1500G (3 axes)
  - Vibration - 16.3G RMS (Random, 20Hz to 2000 Hz, 3 vibrations axes)

The Asine NanoS is a top reliable high performance storage Solid-State Disk with no moving parts, ideal to meet the reliability requirements for defense, aerospace, video and audio applications, as well as bootloader or Firmware / BIOS and embedded high reliability storage. The Asine NanoS component is designed to withstand extreme shocks, vibrations and harsh environmental conditions, while operating without compromising on data integrity.

Physical dimensions:
38.5 L X 21.5 W X 2.7 mm Height

Ordering Information:  P/N Structure: ASNanoS-[SATA]-[cap]-[t][p][m]

<table>
<thead>
<tr>
<th>P/N Prefix</th>
<th>Capacity</th>
<th>t</th>
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<th>m</th>
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<tbody>
<tr>
<td>ASNanoS-SATA</td>
<td>SATA I/F</td>
<td>0008</td>
<td>8 GB</td>
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<td></td>
<td>0016</td>
<td>16 GB</td>
<td></td>
<td>110 pin</td>
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<td>0030</td>
<td>30 GB</td>
<td>Z</td>
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<tr>
<td></td>
<td>0060</td>
<td>60 GB</td>
<td>-40°C to 85°C</td>
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<td></td>
<td>0120</td>
<td><strong>120 GB</strong></td>
<td>Optional beyond industrial temperature</td>
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<td>Additional Options:</td>
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<td>• Made in the USA (for FMF)</td>
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<td>• Made in other (For Offset)</td>
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<td>• USB I/F for OEM</td>
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<td>• Customization available</td>
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**SCS Flash**

**MLC Flash**

**Net capacity could be depended by system**

Ordering Example:
ASNanoS-SATA-0030-ZQM is an SSD Conduction Cool supported MLC 30GB, 110 pin QFN pkg., SATA3, operating at -40°C to 85°C