



*Creating Tomorrow's Memories*

NanoX SATA pSLC & TLC

Flash Disk SMT BGA device

**PLP SPOR**  
**High**  
**Endurance**

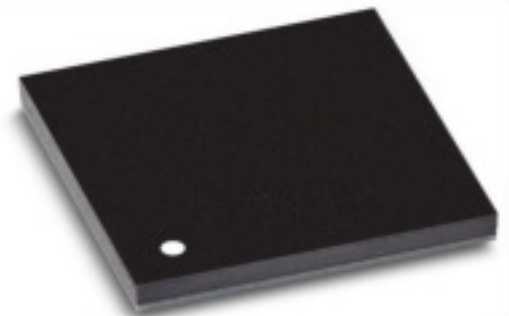
*Photon series*

NanoX SATA

## Product Overview

The *Photon series* **ASNanoX** SSD device SATA interface SMT MO-276 standard package **pSLC or TLC** Flash Disk. With PLP / SPOR application support makes it ideal for power inconsistent applications. 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 **ASNanoX** 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 support, BOM configuration awareness, and more. Product is compliant to JGPSSI-JIG, REACH and RoHS.

ASNanoX



*Images for reference only*

## Applications

- Industrial & Commercial PC/Tablet Systems
- ATM, Gaming, Lottery
- Factory Automation
- 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



## Features

- Highest quality pSLC & TLC 3D Flash technology
- 8GB to 500GB of non-volatile Flash memory at BGA MO-276 package
- SATA1, SATA2 & SATA3 interfaces
- Support PIO of SATA interface, ATA8 standard compliance, SATA Revision 3.1
- **Fast sanitize erase** for entire media (few seconds typical) capacity dependent
- SPOR PLP support application option
- Operating temperature – Commercial 0°C to +70°C, Industrial temp. -40°C to +85°C & optional OEM Extreme up to +90°C case
- Storage temperature -55°C to +95°C
- Humidity 5% to 95% relative, non-condensing
- Altitude (operating & non-operating) -1,000 ft. to 80,000 ft.
- Data transfer rate: Up to 500 MB/Sec burst, Write / Read up to 500 MB/Sec sustained (capacity, file system dependent)
- IOPS 4KB random Read 91K / Write: 50K
- Reliability - MTBF - 2,000,000 hours
  - Embedded LDPC EDC/ECC, support up to 64-bit BCH Algorithm for Error Correction Code. Bad Block Mapping and Management
  - SMART support
  - Built-in power-up self test and automatic self-diagnostics
  - Wear-Leveling Algorithm: Dynamic & Static wear leveling
- Power: Ideal 0.29 W, operating R/W 1.45 W max. (depending on capacity). Slumber 20 mW
- TBW - Up to 1800 TBW for 240GB of pSLC SSD, 360 TBW for 240GB TLC SSD. Extended endurance 30K P/E for pSLC and 3K P/E for TLC
- Data retention 1 years at 55°C 3K write cycles
- No special drivers - uses existing Windows, Linux, VxWorks®, and SATA drivers
- High longevity design
- SSD unit sustain environmental
  - Shock - Half Sine, 50G peak, 11ms; 1000G /0.5mSec. (3 axes)
  - Vibration – 2.17 Grms (Random, 5Hz to 700 Hz, 3 vibrations axes)

The Asine **NanoX** 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 **NanoX** component is designed to withstand extreme shocks, vibrations and harsh environmental conditions, while operating without compromising on data integrity.



*Images for reference only*

### Physical dimensions:

20 L X 16 W X 1.65 mm Height

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

P/N Prefix	cap - Capacity	t Ω	P - pkg.	m	x
ASNanoX-SATA SATA I/F	0008 **8 GB	C 0°C to 70°C	B BGA MO276	SP pSLC Flash	Xnn Speical
	0016 **16 GB	Z -40°C to 85°C		T TLC Flash	
	0030 **30 GB				
	0060 **60 GB				
	0120 **120 GB	Ω OEM selected			
<u>Additional Options:</u>	0240 240 GB	Optional beyond industrial			
• Made in the USA (for FMF)	0500 500 GB	temperature			
• <b>Customization available</b>					
	**pSLC 3D. TLC from 16GB				
	Some combinations are restricted.				
	Net capacity is depended by format				

### Ordering Example:

ASNanoX-SATA-0060-ZBSP is an SSD pSLC 60GB, BGA pkg., SATA3, operating at -40°C to 85°C