

mSATA- Micro SATA Flash Disk  
MO300

Photon series  
ASmSATA

## Product Overview

The *Photon series* presents SATA interfaces in a standard JEDEC MO300 mechanical specification mSATA Form Factor MLC & pSLC Flash Solid State Disk. Asine ASmSATA SSD delivers performance and proven reliability for data and mission critical systems. Added benefits of flexibility are built into Asine's ASmSATA SSD storage systems, including expandable storage capacity as flash disk capacities increase. The ASmSATA SSD support OEM application specific features such as **industrial and commercial temperatures**, optional **conformal coating** per **MIL** and other standards, *fast sanitize erase*, *AES256 encryption*, **Avionic** certified material & workmanship, optional configuration freeze, and more.



## Applications

- Military & Airborne Systems
- Rugged Storage, Military Tactical Recorder
- High-Speed Flight Data Recording
- Cockpit Voice & Data Recording, MIL 1553 / Arinc monitoring
- Video Surveillance, Video/JPEG2000 Capture
- Telecommunications
- Factory Automation
- Automotive
- Testing Instrumentation
- Mission-Critical Applications
- JBOD, NAS, SAN, RAID
- Data Acquisition Systems



## Features

- High quality *Photon series* MLC & pSLC SATA3 Flash technology
- Up to 1000 GB of non-volatile MLC and up to 500GB at pSLC Flash memory
- Fast sanitize erase of up to 20 sec. for entire media (capacity dependent)
- Operating temperature – Commercial 0°C to +70°C, Industrial -40°C to +85°C. Customize Conduction cools supports
- Storage temperature -55°C to +95°C
- Humidity 5% to 95% relative, non-condensing
- Altitude (operating & non-operating) 0 to 80,000 feet
- Less than 20 µsec access time
- High data transfer rate: Up to pSLC 500 MB/Sec R/W, MLC 520/300 MB/Sec Sustained R/W (model dependent) with bound to interface speed
- IOPS 4KB random max R/W: pSLC 50,000, MLC 70,000 (overall capacity & flash technology dependent)
- Encryption – optional AES256
- Reliability - MTBF - 1,500,000 hours MIL-HDBK271F
- Embedded EDC/ECC, based on 64-bit BCH-ECC for Error Correction Code
- Built-in power-up self test, Manual and automatic self-diagnostics
- Bad Block Mapping and Management
- Wear-Leveling Algorithm: Dynamic and Static wear- leveling
- 0.7 W – 1.9 W max. power dissipation (depending on capacity). 0.7W on Idle
- TBW by JESD218 standard with 4KB random write workload –
  - MLC – 60TBW for 240GB SSD, 120TBW for 500GB SSD
  - pSLC – 320TBW for 120GB, 640TBW (@128KB-4800TBW) for 240GB
- No special drivers - uses existing Windows, Linux, VxWorks®, and SATA drivers
- Conduction cooled ready for harsh and rugged applications
- Conformal coating 1B31 standard option. Optional – Automotive, Space, Defense, and Medical applications coating
- SSD unit per MIL-STD 810F
- Shock - Half Sine, 50G peak, 11ms; Half Sine, 1500G (3 axes)
- Vibration - 16.3G RMS (Random, 20Hz to 2000 Hz, 3 vibrations axes)

The ASmSATA is a top reliable high performance mass storage Solid State Drive with no moving parts, ideal to meet the reliability requirements for defense, aerospace, video and audio servers, as well as broadcasting systems and enterprise computing. The ASmSATA SSDs are designed to withstand extreme shocks, vibrations and harsh environmental conditions, while operating without compromising on data integrity.

### Physical dimensions:

For commercial and industrial:

Full size: 50.8 L X 29.85 W (mm)

Ordering Information: P/N Structure: AS[m]SATA -[cap]-[t][f][h][m][properties]

P/N Prefix	Capacity	t	C**	f	H** (Sanitize Erase)	m (Flash)	properties
ASmSATA Full size	0016	+16 GB	C 0°C to 70°C	D Conduction & Convection Cool	F Conformal Coating	W S/W triggered	X0 Fast
	0030	30 GB	Z -40°C to 85°C			H H/W triggered	Sanitize
	0060	60 GB				H1 H/W triggered & AES256	Erase
	0120	120 GB					
	0240	240GB					
<b>Additional Options:</b>	0500	500GB					
• Made in the USA (for F M F)	1000	*1000GB			**Customization available		
• Offset / BuyBack		+ pSLC only					
• <b>Customization available</b>		* MLC only.					
		Otherwise - MLC or pSLC					

**Ordering Example:**  
ASmSATA-0240-ZFSP is an mSATA SSD pSLC 240 GB, SATA, coated, operating at -40°C to 85°C