

M.2 SATA pSLC & MLC  
Flash Disk

1000+GB  
4000 GB  
OEM

Photon series  
M.2 SATA

## Product Overview

The *Photon series* M.2 SSD device presents SATA interface small package **pSLC/MLC** Flash Disk. Asine M.2 flash drive delivers performance and proven reliability for data and mission critical systems. Added benefits of flexibility are built into Asine's M.2 storage systems, including easy field firmware upgrades and expandable storage capacity as flash disk capacities increase. The M.2 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.

M.2



Photos for ref. only

## 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
- Security, HLS-Home Land Security
- High-Speed Data Recording
- Video Surveillance, JPEG2000 Capture
- Factory Automation
- JBOD, NAS, SAN, RAID



## Features

- Highest quality pSLC & MLC Flash technology
- 120GB to 1000GB at MLC and from 60GB up to 500GB at pSLC of non-volatile Flash memory at M.2 type D5-M
- I/F SATA1/2/3, Protocol SATA 3.1 AHCI, All modes & PIO, UDMA6, ATA8 STD.
- **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
- Storage temperature -55°C to +95°C
- Humidity 5% to 95% relative, non-condensing
- Altitude (operating & non-operating) -1000 ft. to 100,000 ft.
- High data transfer rate: pSLC Sustained Read up to 500MB/S, Write up to 500MB/Sec. MLC Sustained Read up to 500MB/Sec and Write 300MB/Sec. (capacity, technology & file system dependent)
- IOPS 4KB up to 50K pSLC & 70K MLC random Read & Write (capacity dependent)
- Reliability - MTBF - 2,000,000 hours
  - Embedded EDC/ECC, support up to 64-bit BCH Algorithm for Error
  - Built-in power-up self test and automatic self-diagnostics
  - Wear-Leveling Algorithm: Dynamic & Static wear leveling
- Power: 0.7 W on Idle. Operation max. 4.7 W
- TBW by JESD218 standard with 4KB random write workload –
  - MLC – 60TBW for 240GB SSD, 120TBW for 500GB SSD
  - pSLC –320TBW for 120GB SSD, 640TBW (@128KB-4800TBW) for 240GB SSD
- No special drivers - uses existing Windows, Linux, VxWorks®, and SATA drivers
- Heat dissipation balancing for demanding applications
- SSD unit sustain environmental
  - Shock - Half Sine, 1000G peak / 0.5ms (3 axes)
  - Vibration – Operating 2.17 GRMS (Random, 5-700Hz, 3 vibrations axes)
  - Non-operating: 3.1 Grms (5-800Hz)

The Asine **M.2** 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 **M.2** component is designed to withstand extreme shocks, vibrations and harsh environmental conditions, while operating without compromising on data integrity.



Photos for ref. only

### Physical dimensions:

2280: 80 L X 22 W X 3.2 max mm H

**Ordering Information:** P/N Structure: ASM2-[ff]-[cap]-[t][f][h][m]

P/N Prefix	[ff]	Capacity	t	f	h	m
ASM2-08S	2280 SATA I/F	0060 <sup>3)</sup> 60 GB	C 0°C to 70°C	F Conformal coating	W S/W Sanitize Erase	SP pSLC Flash
		0120 <sup>2) 3)</sup> 120 GB	Z -40°C to 85°C		H* H/W Sanitize Erase	M MLC Flash
		0240 <sup>2) 3)</sup> 240 GB				
		0500 <sup>2) 3)</sup> 500 GB	Optional beyond industrial temperature			
		1000 <sup>2)</sup> 1000 GB				

\* Customization OEM option

**Additional Options:**

- **4TB 22110 OEM option**
- **Customization available**

1) TBD  
 2) 2280 MLC  
 3) 2280 pSLC  
 Net capacity could be depended by system

### Ordering Example:

ASM2-8S-0240-ZFSP is an M.2 2280 240GB pSLC SSD Conformal coated, SATA3, operating at -40°C to 85°C

The information contained in this document is subject to change without notice