

M.2 2242 NVMe / PCIexpress  
MLC Flash Disk

Photon series  
M.2 NVMe

## Product Overview

The *Photon series* M.2 SSD device presents NVMe interface small package **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, TCG OPAL, 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, 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 MLC Flash technology
- For 2242: 120GB to 500GB at MLC and up to 240GB at pSLC of non-volatile Flash memory at M.2 type D5-M
- Interface PCIe NVMe Gen2 5Gbps, X4 lanes
- NVMe specification revision 1.1a compliant
- Security - Optional: AES256; Secure Erase support, OPAL (certain models)
- **Fast sanitize erase** for entire media (few seconds typical) capacity dependent
- Operating temperature – Commercial 0°C to +70°C and Industrial -40°C to 85°C
- Storage temperature -55°C to +95°C
- Humidity 5% to 95% relative, non-condensing
- Altitude – operating -1000 ft. to 100,000 ft.
- Data sustained transfer rate: MLC / pSLC Read up to 220MB/Sec. and Write up to 200MB/Sec.
- IOPS up to 25K Read or Write
- Reliability – MTBF 2,000,000 hours
  - Embedded EDC/ECC Bad Block Mapping and Management
  - Built-in power-up self test and automatic self-diagnostics
  - Wear-Leveling Algorithm: Dynamic & Static wear leveling
- Power: 2.4W on Idle. max. 3.7W @500GB capacity
- TBW by JESD218 standard with 4KB random write workload
  - MLC - 60TBW @ 240GB SSD, 120TBW @ 500GB
  - pSLC 300TBW @ 120GB, 600TBW @ 240GB
- No special drivers - uses compliant NVMe Windows, Linux drivers
- SSD unit sustain environmental – Operating and non-operating:
  - Shock (operating and non-operating) 1,000 G/0.5ms
  - Vibration - Operating: 2.17Grms (5-700 Hz)
  - 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.



### Physical dimensions:

2242: 42 L X 22 W X 3.8max mm H  
Weight 6.1 gr.

**Ordering Information:** P/N Structure: ASM2NV[ff]-[cap]-[t][f][h][m][x]

P/N Prefix	[ff]	*Capacity	t	f	h	m	x
ASM2NV04	2242-D5-M		C 0°C to 70°C	F	W S/W Sanitize Erase	M	X20 OPAL
	NVMe I/F	0120 120 GB	Z -40°C to 85°C		H* H/W Sanitize Erase	SP	X05 Extra Data Retention (D.R.)(with SP)
		0240 240 GB					X25 OPAL and Extra D.R.
		0500 500 GB					
		pSLC max capacity 240GB					

**Optional beyond industrial temperature**

**Ω Optional customization conduction cooling**

\* OEM Customization option

\*Net capacity could be depended by system

**Additional Options:**

- **Customization available**

**Ordering Example:**

ASM2NV04-0500-ZMX20 is an M.2 2242 500GB MLC SSD, NVMe, OPAL operating at -40°C to 85°C

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