



Creating Tomorrow's Memories

M.2 3D eNAND NVMe  
Gen3 PCIexpress Flash Disk

Up to  
2TB  
Rugged

Photon series  
NVMe

## Product Overview

The *Photon series* M.2 SSD device presents NVMe interface small package **TLC** Flash Disk. Asine M.2 flash drive delivers performance and proven reliability . Added benefits of flexibility are built into Asine's M.2 storage systems and expandable storage capacity as flash disk capacities increase.

The M.2 drives support also other specific features such as AES-256 bit hardware encryption, TCG OPAL , fast sanitize erase, high grade industrial certified metal & workmanship.

M.2



Photos for ref. only

## Applications

- Industrial & Commercial PC/Tablet systems
- Gaming
- Factory automation
- Navigation, Infotainment,
- Smart Terminals
- Telecomm Hub / Switch
- Airborne Systems
- Rugged Computer
- Security, HLS-Home Land Security
- High-Speed Data Recording
- Video Surveillance, JPEG2000 Capture
- JBOD, NAS, SAN, RAID



## Features

- Highest quality 3D TLC Flash technology
- 240GB to 2000GB at TLC of non-volatile Flash memory at M.2 type D5-M
- Interface PCIe Gen3 x4 lanes NVMe 1.3 compliant NVMe Secure Erase support
- Security: AES256; compliant NVMe Secure Erase support; Optional OPAL
- Operating temperature: Commercial 0°C ~ +70°C, Industrial -40°C ~ +85°C (Tc)
- Storage temperature -40°C to +85°C
- Humidity 5% to 95% relative, non-condensing
- High data sustained transfer rate: TLC Sequential Read up to 3480MB/Sec sequential Write up to 3000MB/Sec (1MB blocks QD8)
- Random 4KB block size - Read: Up to 335K IOPS. Write: Up to 280K IOPS
- 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
  - Moderate SPOR / PLP
- Power Consumption: up to 5.7 (Active), 0.3W (Idle)
- TBW by JESD218 standard 4KB random write workload – up to 900TBW @ 2TB; Enterprise (option V): 6000 TBW @ 1TB 128K sustain write
- No special drivers - uses compliant NVMe Windows, Linux drivers
- SSD unit sustain environmental – Operating and non-operating:
  - Shock (operating and non-operating) 1,500 G/0.5ms
  - Vibration - Operating: 2-500Hz, 3.1G
  - 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, 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 harsh environmental conditions, while operating without compromising on data integrity.



Photos for ref. only

### Physical dimensions:

2280: 80 L X 22 W X 3.8 max mm H  
Weight-max: 8 gr.

### Ordering Information:

<i>P/N</i>	<i>P/N Structure: ASCN2M28-[cccc]NAET2[xnn]</i>	<i>Description</i>
ASCN2M28-0240NAET2		M.2-2280-D5-M TLC 240GB AES256 NVMe Gen3 Commercial temperature
ASCN2M28-0480NAET2		M.2-2280-D5-M TLC 480GB AES256 NVMe Gen3 Commercial temperature
ASCN2M28-0960NAET2		M.2-2280-D5-M TLC 960GB AES256 NVMe Gen3 Commercial temperature
ASCN2M28-1920NAET2		M.2-2280-D5-M TLC 1920GB AES256 NVMe Gen3 Commercial temperature
ASZN2M28-0240NAET2		M.2-2280-D5-M TLC 240GB AES256 NVMe Gen3 Industrial temperature
ASZN2M28-0480NAET2		M.2-2280-D5-M TLC 480GB AES256 NVMe Gen3 Industrial temperature
ASZN2M28-0960NAET2		M.2-2280-D5-M TLC 960GB AES256 NVMe Gen3 Industrial temperature
ASZN2M28-1920NAET2		M.2-2280-D5-M TLC 1920GB AES256 NVMe Gen3 Industrial temperature

### Options for M.2-2280:

Operating Industrial temperature(C>Z)(240GB-1920GB), OPAL(A>O), conformal coated (xnn=00F), Enterprise(T>V)(240GB-960GB), Double endurance (xnn=2nn), Triple endurance (xnn=3nn). Enhanced endurance applicable for specific capacities.