

M.2 3D eNAND NVMe  
Gen3 PCIexpress Flash Disk

Up to  
8TB  
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 7680GB at TLC of non-volatile Flash memory at M.2 type D5-M
- Interface PCIe Gen3 & Gen4 x4 lanes NVMe 1.3 compliant NVMe Fast Erase
- Security: AES256; compliant NVMe Fast Erase support; Optional OPAL
- Operating temperature: Commercial 0°C ~ +70°C, Industrial -40°C ~ +85°C (Tc)
- Storage temperature -40°C to +85°C Tc
- 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:** P/N Structure: ASCG4M28-[cccc]NAET2[xnn]; ASCN9M28-[cccc]NAET1[xnn]

*P/N*

*Description*

ASCN2M28-0240NAET2 M.2-2280-D5-M 0240GB eNAND TLC AES256 Fast Erase NVMe Gen3 Commercial temp. PRO  
 ASCN2M28-0480NAET2 M.2-2280-D5-M 0480GB eNAND TLC AES256 Fast Erase NVMe Gen3 Commercial temp. PRO  
 ASCN2M28-0960NAET2 M.2-2280-D5-M 0960GB eNAND TLC AES256 Fast Erase NVMe Gen3 Commercial temp. PRO  
 ASCN2M28-1920NAET2 M.2-2280-D5-M 1920GB eNAND TLC AES256 Fast Erase NVMe Gen3 Commercial temp. PRO

ASZG4M28-0240NOET200F M.2-2280-D5-M 0240GB eNAND TLC OPAL Fast Erase NVMe Gen4 ePLP Industrial temp. MIL Coated PRO  
 ASZG4M28-0480NOET200F M.2-2280-D5-M 0480GB eNAND TLC OPAL Fast Erase NVMe Gen4 ePLP Industrial temp. MIL Coated PRO  
 ASZG4M28-0960NOET200F M.2-2280-D5-M 0960GB eNAND TLC OPAL Fast Erase NVMe Gen4 ePLP Industrial temp. MIL Coated PRO  
 ASZG4M28-1920NOET200F M.2-2280-D5-M 1920GB eNAND TLC OPAL Fast Erase NVMe Gen4 ePLP Industrial temp. MIL Coated PRO  
 ASZG4M28-3840NOET200F M.2-2280-D5-M 3840GB eNAND TLC OPAL Fast Erase NVMe Gen4 ePLP Industrial temp. MIL Coated PRO  
 ASZG4M28-7680NOET200F M.2-2280-D5-M 7680GB eNAND TLC OPAL Fast Erase NVMe Gen4 ePLP Industrial temp. MIL Coated PRO

### Options for M.2-2280: (certain combinations allowed)

Gen3 (N2) (only C-temp.) or (N9) (I-temp.); Gen4 (G4); Operating Industrial temperature(C>Z)(240GB-7680GB), ePLP/SPOR (N>L), OPAL(A>O), conformal coated (xnn=x0F), Enterprise(T>V)(240GB-3840GB), Standard endurance (xnn=0nn), Double endurance (xnn=2nn), Triple endurance (xnn=3nn). Enhanced endurance applicable for specific capacities (consult factory). Factory codes: N2, N9, G4 and T1 or T2.