

Coming Soon

PCI Express SSD -NVMe- For Embedded

M.2 2280 / 3D NAND



Overwhelming performance and high reliability SSD for Embedded and IoT Systems.

Features

- **M.2 type with large capacity**

M.2 with latest 3D TLC 64layer NAND flash realizes large capacity up to 1920GB.

- **Error detection · LDPC correction function**

LDPC method is adopted as data error correcting function and data correction ability is greatly improved.

- Conventional method (BCH) : Algebraic decoding method by H/W
- LDPC method : Iterative decoding based on stochastic reasoning by H/W and S/W

- **Error process function to maximize lifetime**

If the data written to NAND Flash is biased to a certain pattern, the degree of abrasion will vary depending on the cell even same number of times of rewriting. By writing the data scrambled by the randomizer from receiving from HOST equalizes the charge amount of each cell and suppresses the variation in degree of deterioration for each cell by data pattern.

- **Temperature monitoring function**

External temperature sensor monitors ambient temperature around NAND flash.

By NAND Flash Memory ambient temperature exceeding threshold and lowering NAND flash operating frequency prevents characteristic deterioration due to self-heating of NAND flash memory.

- **Power Loss Protection function (PLP function)**

- **End to End Data Protection**


- **Supports expanded operational temperature (-40~85°C)**



Japan Quality

HAGIWARA Solutions is Japanese manufacturer for Flash Storage for embedded and industrial field. HAGIWARA Solution has top share in Japan with high quality and high technical power.


Product Specifications

Form		M.2 2280(TLC)
Appearance image		
Interface standard		PCIe[x4] Support Gen3
Supported protocol		NVMe 1.3
Form factor		M.2 2280 S3-M
Capacity		120GB-1920GB
Performance (by Max. capacity model)	Sequential Read	3,400MB/s
	Sequential Write	2,900MB/s
	Random Read	660K IOPS
	Random Write	540K IOPS
Temperature range	In operation	0°C-70°C
	In storage	-40°C-85°C
Basic function	Static wear leveling	✓
	ECC function	LDPC
	Mode	Normal (TLC)
	Randomizer	✓
	Read retry	✓
	Temperature monitoring	✓
	Power Management	✓
	End to End Date Protection	✓
Security function	Power Loss Protection	(Option)
	TCG Opal	(Option)
	AES 256	✓
MTBF		T.B.D.
UBER		1x10(-16)
P/E cycle		3,000 cycle

*Information above is subject to change due to under development.


Lineup under Planning

U.2




PCIe Gen3 x4
NVMe 1.3
480GB~4TB

CFexpress Type.B



PCIe Gen3 x2
NVMe 1.3
60GB~480GB

BGA



PCIe Gen3 x2
NVMe 1.3
60GB~240GB

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