MZVPW128HEGM-00000
MZVPW256HEGL-00000
MZVKW512HMJP-00000
MZVKW1T0HMLH-00000

Target

M.2 NVMe PCIe SSD specification

(SM961)

datasheet

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Target Rev. 0.1
SSD

Revision History

Revision No.	History	Draft Date	Remark	Edited by	Reviewed by
0.1	1. Initial issue	Apr 15, 2016	Target	Brian Chae	Jenny Kang

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SM961 Series

PART NUMBER	MZVPW128HEGM-00000	MZVPW256HEGL-00000	MZVKW512HMJP-00000	MZVKW1T0HMLH-00000
Capacity[1]	128GB	256GB	512GB	1TB
LBA[2]	250,069,680	500,118,192	1,000,215,216	2,000,409,264

FEATURES (TBD)

- PCIe Gen3 8Gb/s Interface, up to 4 Lanes
- Compliant with PCI Express Base Specification Rev. 3.0
- Compliant with PCI Express CEM Specification Rev. 3.0
- Partially Compliant with NVMe Express specification Rev. 1.2
- Power Saving Modes:
  - Supporting APST
  - Supporting L1.2 Mode
- Support Admin & NVM Command Set
- RoHS Compliant

Environmental Specifications (TBD)

Temperature	
Operating[4]	0°C to 70°C
Non-operating	-40°C to 85°C
Humidity (non-condensing)	
Non-operating	5 ~ 95%
Linear Shock (0.5ms duration with 1/2 sine wave)	
Non-operating	1,500 G
Vibration	
Non-operating (10 ~ 2,000 Hz, Sinusoidal)	20 G

Drive Configuration (TBD)

Capacity	128/256/512GB/1TB
From Factor	M.2
Interface	PCI Express Gen3 x4
Bytes per Sector	512 Bytes

Performance Specifications [3] (TBD)

Data Transfer Rate (128KB)

Sequential Read	(1TB/512GB) Up to 3200 MB/s
	(256/128GB) Up to 3100 MB/s
Sequential Write	(1TB) Up to 1800 MB/s
	(512GB) Up to 1700 MB/s
	(256GB) Up to 1400 MB/s
	(128GB) Up to 700 MB/s

Data I/O Speed (4KB)

Random Read	(1TB) Up to 450K IOPS
	(512/256/128GB) Up to 330K IOPS
Random Write	(1TB) Up to 320K IOPS
	(512GB) Up to 300K IOPS
	(256GB) Up to 280K IOPS
	(128GB) Up to 170K IOPS

Reliability Specifications (TBD)

UBER	< 1 sector per 10^{15} bits read
MTBF	1.5 Million Hours

POWER REQUIREMENTS (TBD)

Supply Voltage / Tolerance	+3.3V ± 5%
Voltage Ripple/Noise (max.)	100mV p-p
Active[5] (Typ, RMS)	
- Read	5.9 W
- Write	5.7 W
Idle[6] (Typ.)	TBD
L1.2[7] (Typ)	2.5 mW

PHYSICAL DIMENSION (TBD)

Width	22.00 ± 0.15 mm
Length	80.00 ± 0.15 mm
Height	
(Single Side)	Max. 2.38 mm
Weight	Up to 8 g

Specifications are subject to change without notice.

1) 1MB = 1,000,000 Bytes, 1GB = 1,000,000,000 Bytes, Unformatted Capacity. User accessible capacity may vary depending on operating environment and formatting.
2) 1 Sector = 512Bytes, Max. LBA represents the total user addressable sectors in LBA mode and calculated by IDEMA rule
3) Actual performance may vary depending on use conditions and environment.
4) Measured by SMART Temperature. Proper airflow recommended
5) Active power is measured on sequential write and read.
6) Idle Power is measured on Idle status with L1.

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