

INTRODUCTION

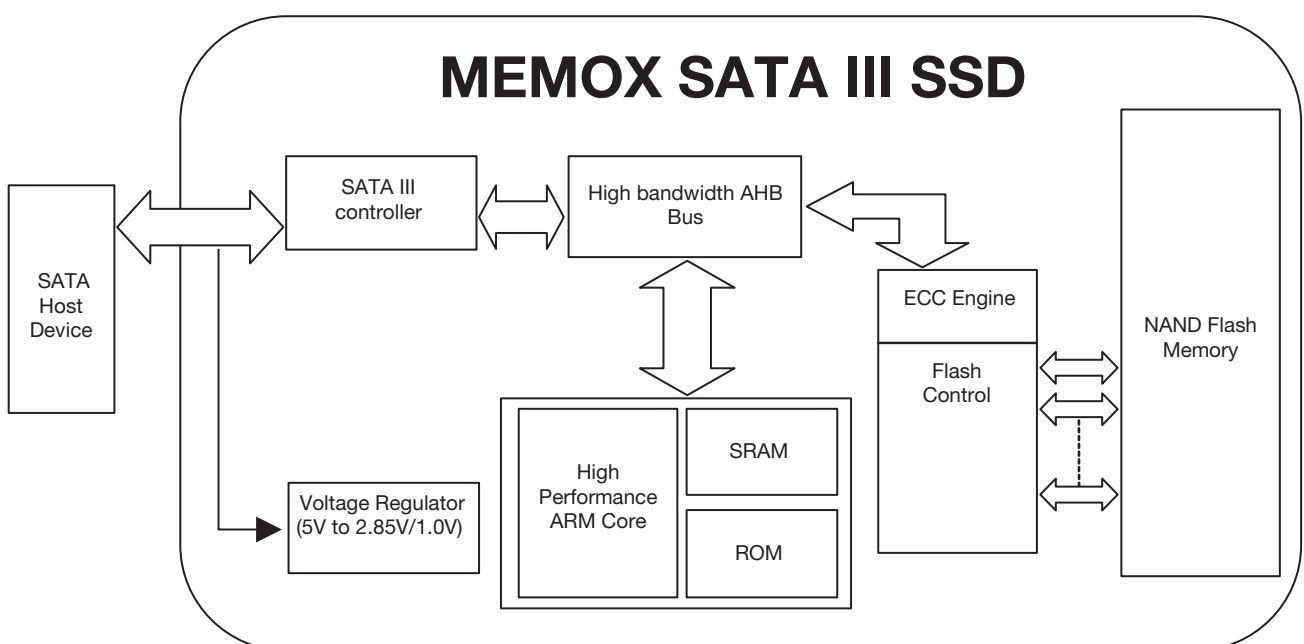
The MEMOX SATA III SSD is main stream, high performance and high capacity mass storage solution in 2.5 inch form factor. Utilizing computer grade temperature MLC flash components and high speed catch on NAND for data buffering, MEMOX SATA III SSD offers normal operating temperature, provides outstanding performance and proven reliability for products operating outside the standard temperature.

MAIN FEATURE

- Compact design: 2.5 inch form factor.
- Capacities: 60GB to 480GB.
- Maximum performance: Sequential read up to 550MB/s, sequential write up to 500MB/s.
- Read and write IOPS: 50,000 IOPS at 4KB random read, 70,000 IOPS at 4KB random write.
- Operating temperature: 0oC to 70oC.
- Compliant with Serial ATA Revision 3.0.
- Compatible with SATA 3.0Gb/s and SATA 6.0Gb/s interface rates.
- Enhanced endurance by global dynamic and static wear-leveling.
- Hardware 55bit/Sector ECC correction engine.
- Support S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) ATA feature set.
- Support Native Command Queuing (NCQ) command.
- Sudden power off recovery.
- RoHS, CE , FCC & VCCI certification.

BLOCK DIAGRAM

EUDAR S3162 SATA III SSD consists of below functional blocks. The advanced architecture is optimized to provide highest data reliability and transfer performance.



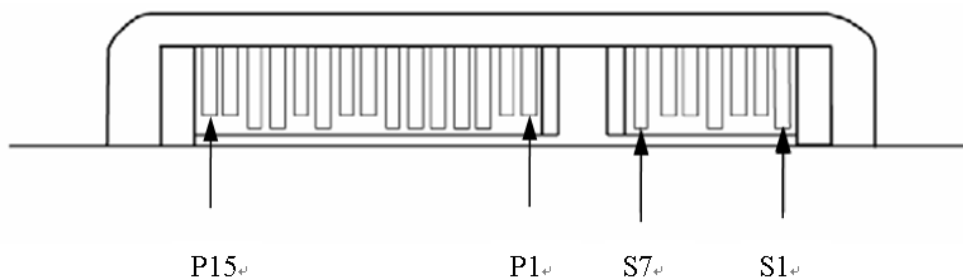
PRODUCT IMAGES



CAPACITIES

MEMOX	CAPACITY
MX-S102BR	60GB
MX-S103BR	120GB
MX-S104BR	240GB
MX-S105BR	480GB

SATA SSD PIN ASSIGNMENT



Group	Pin No. ¹	Function	Description
Signal Segment	S1	GND	Ground
	S2	A+	Differential signal pair A
	S3	A-	
	S4	GND	Ground
	S5	B+	Differential signal pair A
	S6	B-	
	S7	GND	Ground
Key & Spacing			
Power Segment	P1	NC/V ₃₃	3.3V power (Not used)
	P2	NC/V ₃₃	3.3V power (Not used)
	P3	NC/V ₃₃	3.3V power (Not used)
	P4	GND	Ground
	P5	GND	Ground
	P6	GND	Ground
	P7	V ₅	5V power, pre-charge
	P8	V ₅	5V power
	P9	V ₅	5V power
	P10	GND	Ground
	P11	DAS	Device Activity Signal
	P12	GND	Ground
	P13	NC/V ₁₂	12V power (Not used)
	P14	NC/V ₁₂	12V power (Not used)
	P15	NC/V ₁₂	12V power (Not used)

Notes: 1. All pins are in a single row, with a 1.27 mm (0.050") pitch.

SYSTEM POWER REQUIREMENT

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	REMARK
Supply voltage	Vcc	4.5	5.0	5.5	V	
Read/Write power	Pw	-	1.8	-	W	RMS value
Standby power	Ps	-	0.5	-	W	RMS value

ENVIRONMENT SPECIFICATIONS

PARAMETER	SYMBOL	MIN
Temperature	Operating	0°C to 70°C
	Non-Operating	-40°C to 85°C
Humidity	Operating	25°C, 8% to 95%, noncondensing
	Non-Operating	40°C, 8% to 95%, noncondensing
Vibration	Operating	sine 30G, 10~2000Hz
	Non-Operating	sine 30G, 10~2000Hz
Shock	Operating	Half sine 3000G/0.3ms
	Non-Operating	Half sine 3000G/0.3ms
Altitude	Operating	80,000 feet Max.
	Non-Operating	80,000 feet Max.

ENVIRONMENT SPECIFICATIONS

TYPE	VALUE
Data Retention	10 years @ 25oC
Endurance	Enhanced global dynamic and static wear-leveling algorithm
MTBF (@ 25oC) ¹	2,000,000 hours

Notes: 1. The Mean Time Between Failures (MTBF) is calculated using a prediction methodology, Telcordia SR-332, which based on reliability data of the individual components in the SSD. It assumes nominal voltage, with all other parameters within specified range.

PERFORMANCE

TYPE	VALUE
Host Interface Speed	SATA 3.0 Gb/s and SATA 6.0 Gb/s
Data Transfer Rate ¹	Sequential Read: up to 550MB/s
	Sequential Write: up to 500MB/s
Random Read/Write IOPS	4KB Random Read: 50,000 IOPS
	4KB Random Write: 70,000 IOPS

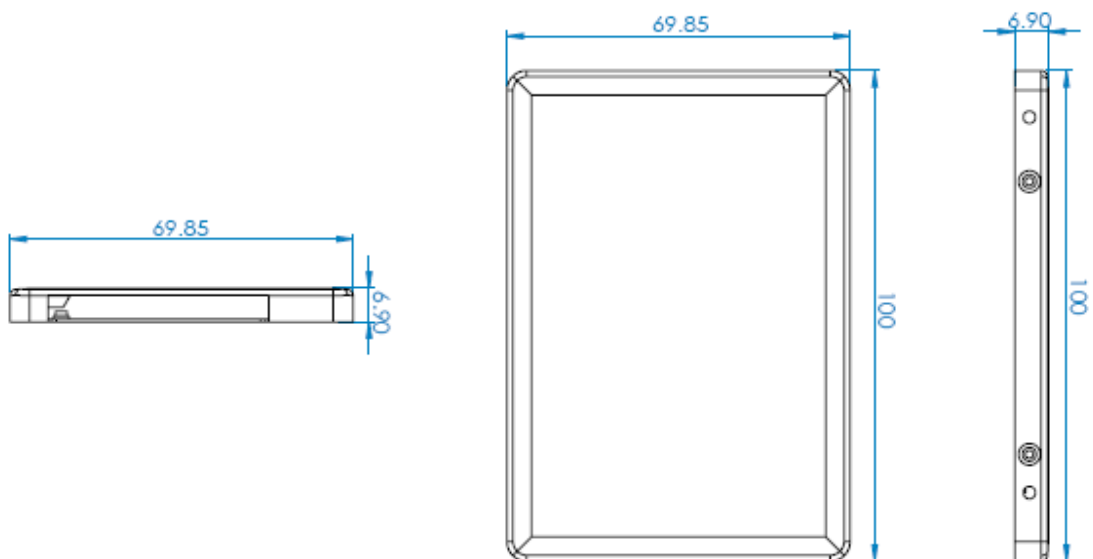
Notes:

1. The performance may vary according to different product capacity.
2. IOPS: Input/Output Operations per Second.

CAPACITIES

TYPE	VALUE
Form factor	2.5" form factor
Length	100 mm +/- 0.1mm
Width	69.85 mm +/- 0.1mm
Thickness	6.9 mm +/- 0.1mm

MECHANICAL FORM FACTOR (UNITS IN MM)



PART NUMBER DECODER

