

SLC NAND

2.5-Inch SAS Solid State Drives

TOSHIBA
Leading Innovation >>>

*Engineered to deliver performance,
endurance, and reliability for business
critical applications..*



MK1001GRZB
MK2001GRZB
MK4001GRZB

At the forefront of leading-edge manufacturing technology, Toshiba offers enterprise-class solid state drives (SSDs) designed to support the market's demand for higher performance, endurance, and lower power consumption in business critical, enterprise applications.

The MKx001GRZB enterprise-class SSD represents the highest level of a tiered storage architecture that enables organizations to effectively tune the performance, capacity, and reliability of their storage environments. The MKx001GRZB is offered in capacities of 100GB, 200GB, and 400GB¹ and designed for compatibility and ease of integration into new or existing tier-0 enterprise storage systems, including servers, direct-attached storage, and network-attached storage.

The new 2.5-inch small form factor drives utilize the latest 32 nanometer (nm) enterprise grade single-level cell (SLC)

NAND flash memory and 6Gb/s Serial Attached SCSI (SAS) interface. The Toshiba SSD delivers performance that outpaces competing enterprise-class SSDs, with random sustained 90,000 read and 17,000 write IOPS² and sequential sustained 510MB/s read and 230MB/s write throughput. Combined with a low power requirement of only 6.5 watts at operation, the Toshiba SSD also delivers an industry-leading power efficiency rating of 13,800 IOPS/watt.

- 32 nm Enterprise Grade Single-level Cell (SLC) NAND Flash Memory
- 6Gb/s Serial Attached SCSI (SAS) Interface
- Up to 400GB¹ of Storage Capacity
- Random Sustained 90,000 Read and 17,000 Write IOPS²
- Sequential Sustained 510MB/s Read and 230MB/s Write Throughput

Hard Drive

Series Overview

	MK1001GRZB	MK2001GRZB	MK4001GRZB
User Capacity	100GB ¹	200GB ¹	400GB ¹
Physical Capacity	128GB	256GB	512GB
Drive Interface	Serial Attached SCSI (SAS-2)		
Sector Size	528B	520B	512B
NAND Technology	32nm SLC		
Transfer Rate to Host	6 Gb/s		

Performance

Sequential Read	510MB, Q=4
Sequential Write	230MB, Q=4
4KB Random Read	90,000 IOPS, Q=16
4KB Random Write	17,000 IOPS, Q=16
Product Life	5 Years

Reliability

Total Storage Capacity of Data Written ²	8PB ¹	No Limit/Product Life	No Limit/Product Life
Availability (hrs/day x days/wk)	24 x 7		

Power Requirements

Voltage	5V (+/- 5%)
Power Consumption (Active)	6.5 watts (+12V / +5V)
Power Consumption (Efficiency)	up to 13,800 IOPS / watt

Physical Size

Dimensions (W) x (D) x (H)	69.85 mm (2.75") x 100 mm (3.94") x 15.4 mm (0.59")
Weight	152 g (5.36 oz)

Environmental

Temp - Operating	0° to 55°C (32° to 131°F)
Temp - Non-Operating	-40° to 70°C (-40° to 158°F)
Vibration - Operating	9.8 m/s ²
Vibration - Non-Operating	49 m/s ²
Shock - Operating	1,000G (0.5ms, ½ sine)
Shock - Non-Operating	1,000G (0.5ms, ½ sine)

Limited Warranty

Limited Warranty	5 years (from date of purchase)
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¹One Gigabyte (1GB) means 10⁹ = 1,000,000,000 bytes, one Terabyte (TB) means 10¹² = 1,000,000,000,000 bytes, and one Petabyte means 10¹⁵ = 1,000,000,000,000 bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2³⁰ = 1,073,741,824 bytes, 1TB = 2⁴⁰ = 1,099,511,627,776 bytes, and 1PB = 2⁵⁰ = 1,125,899,906,842,624 bytes, and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

²4KB random read/write I/O performance

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