

15,000 RPM

## 2.5-Inch SAS Enterprise Hard Disk Drives

**TOSHIBA**  
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*Industry's Highest Capacity Enterprise  
Small Form Factor 15K HDD*



MK1401GRRB  
MK1401GRRR  
MK3001GRRB  
MK3001GRRR

Toshiba's 2.5-inch high performance enterprise-class MK01GRRB/R series supports the exacting requirements of compute-intensive environments. With a 15,000 RPM spin speed, 6 Gb/sec SAS interface, and top capacity of 300GB\* the Toshiba MK01GRRB/R drives leverage an enhanced power condition state that reduces drive spin in idle states, significantly lowering power consumption. Lower power consumption also means lower heat dissipation, which increases system stability, and less energy use. This saves enterprises money and reducing the impact on the environment.

As part of its commitment to improved security, select models of the Toshiba MK01GRRB/R series features self-encryption technology (AES-256) designed to the Trusted Computing Group (TCG) "Enterprise SSC" specification. SED technology provides simple and complete data security throughout the drive's usable life cycle – with no performance impact – and enables organizations to crypto-graphically erase protected data securely, enabling the ability to return, service, repurpose, or retire drives without lengthy data overwrite operations or physical destruction of the drive.

- Up to 300GB\* of storage capacity for high performance, mission critical servers and storage system applications
- 6 Gb/sec SAS interface
- Low power consumption
- 5-Year Warranty

# Hard Drive

# 15,000 RPM

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### Series Overview

MK1401GRRB MK1401GRRR MK3001GRRB MK3001GRRR

Drive Capacity	147GB <sup>1</sup>	300GB <sup>1</sup>
Drive Interface	6 Gb/sec SAS	
RoHS Compliant	Yes	
Transfer Rate to Host	6 Gb/sec	
Self Encryption Technology	No	AES-256

### Performance

Track-to-track Seek	0.35ms typ. (Read), 0.2ms typ. (Write)
Average Seek Time	3.0ms typ. (Read), 2.7ms typ. (Write)
Rotational Speed	15,000 RPM
Average Latency	2.00ms
Buffer Size	32MB

### Power Requirements

Voltage	5V (+/- 5%), 12V (+/- 5%)
Spin up (start) Power	2V +/- 5%: 1.2A (peak), 1.5A (peak < 100us), 5V +/- 5%: 1.0A (peak)
Read/Write Power	8.7 watts
Active Idle Power	4.3 watts

### Physical Size

Dimensions (W) x (D) x (H)	69.85 mm (2.75 in) x 100.45 mm (3.95 in) x 15 mm (0.59 in)
Weight	220 g

### Environmental

Temp - Operating	5° to 55°C (41° to 158°F)
Temp - Non-Operating	-40° to 70°C (-40° to 158°F)
Relative Humidity - Operating	5% to 95% RH
Relative Humidity - Non-Operating	5% to 95% RH
Vibration - Operating	0.6mm (5 to 20Hz) / 9.8m/s <sup>2</sup> (1.0G) (20Hz to 300Hz)
Vibration - Non-Operating	3.1mm (5 to 20Hz) / 49m/s <sup>2</sup> (5.0G) (20Hz to 300Hz)
Shock - Operating	980m/s <sup>2</sup> (100G) max (1ms)
Shock - Non-Operating	3,920m/s <sup>2</sup> (400G) max (1ms)
Altitude - Operating	3,048 m
Altitude - Non-Operating	12,192 m

### Acoustics

Acoustics (ready)	3.3 bels
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### Reliability

Mean Time Between Failure (MTBF)	1,600,000 hours
Component Life	5 years
Error Rate (seek)	1 x 10e <sup>7</sup>
Error Rate (unrecoverable)	1 x 10e <sup>16</sup>
Limited Warranty	5 years (from date of purchase)

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<sup>1</sup>One Terabyte (1TB) = 1,000 Gigabytes (GB). One Gigabyte (1GB) means 10<sup>9</sup> = 1,000,000,000 bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2<sup>30</sup> = 1,073,741,824 bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, pre-installed software applications, or media content. Actual formatted capacity may vary.

Subject to Change: While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice. Product image may represent design model.

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