

MQ04AB SERIES

Client HDD

Toshiba's MQ04AB Series 5,400 rpm HDDs deliver up to 2TB^[1] of data storage capacity in 2.5-inch form factor. It is suitable for ultra-portable laptop and notebook PCs, as well as for use in slim-line "all-in-one" desktop PCs. Other uses include high-end multimedia devices where low-power and mobile-class robustness helps to achieve platform design requirements. The MQ04AB series leverage shock sensors to protect the drive from excessive shock events. The MQ04AB Series' quiet operation makes it an excellent storage solution for laptops, slim-line desktops, and applications where capacity, power-profile, and reliability are critical.



Product image may represent a design model.

KEY FEATURES

- Up to 2 TB of Storage Capacity
- 2.5-inch Slim Form Factor
- 5,400 rpm performance
- SATA up to 6.0 Gbit/s^[3]
- Advanced Format (AF) 512e Sector Technology
- MTTF^[4] of 600,000 hours
- Low Power Consumption Versus traditional 3.5-inch desktop HDDs
- Quiet Operation Versus traditional 3.5-inch desktop HDDs
- Improved Performance with Native Command Queue (NCQ)
- Optimize HDD Health with SMART
- Drive-Managed SMR (Shingled magnetic recording) Technology

APPLICATIONS

- Desktop computer
- All-in-One systems
- External storage

SPECIFICATIONS

Item		MQ04ABD200	MQ04ABF100
Interface		SATA (1.5 Gbit/s, 3.0 Gbit/s, 6.0 Gbit/s)	
Formatted Capacity		2 TB	1 TB
Performance	Interface Speed	6.0 Gbit/s Max	
	Rotation Speed	5,400 rpm	
	Average Latency Time	5.56 ms	
	Buffer Size	128 MiB ^[5]	
Logical Data Block Length		HOST: 512 B, DISK: 4,096 B ^[6]	
Supply Voltage	Allowable Voltage	5 V ^[7] ± 5%	
Power Consumption	Read / Write ^[8]	1.65 W Typ.	
	Low Power Idle ^[9]	0.60 W Typ.	
Acoustics (Sound Power)	For idle mode (Spindle is rotating)	23 dB Ave.	19 dB Ave.
	Seek	24 dB Ave.	21 dB Ave.

ENVIRONMENTAL LIMITS

Item		Specification
Temperature	Operating	0 °C to 60 °C
	Non-Operating	- 40 °C to 65 °C
Humidity	Operating	8 % to 90 % R.H. (No condensation)
	Non-Operating	8 % to 90 % R.H. (No condensation)
Shock	Operating	3,920 m/s ² { 400 G } / 2 ms duration
	Non-Operating	9,800 m/s ² { 1,000 G } / 2 ms duration
Vibration	Operating	9.8 m/s ² { 1 G } (5 to 500 Hz)
	Non-Operating	49 m/s ² { 5 G } (15 to 500 Hz)
Altitude	Operating	- 300 m to 3,000 m
	Non-Operating	- 300 m to 12,000 m

RELIABILITY

Item	Specification
MTTF	600,000 h
Non-recoverable Error Rate	1 error per 10 ¹⁴ bits read
Load / Unload	600,000 times

MECHANICAL SPECIFICATIONS

Item	MQ04ABD200	MQ04ABF100
Width	69.85 mm	
Height	9.5 mm	7.0 mm
Length	100.0 mm	
Weight	117 g Max	92 g Max

[1] Definition of capacity: Toshiba defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2³⁰ = 1,073,741,824 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.

[2] "2.5-inch" and "3.5-inch" mean the form factor of HDDs or SSDs. They do not indicate drive's physical size.

[3] Read and write speed may vary depending on the host device, read and write conditions, and file size.

[4] MTTF (Mean Time to Failure) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF.

[5] A kibibyte (KiB) means 2¹⁰, or 1,024 bytes, a mebibyte (MiB) means 2²⁰, or 1,048,576 bytes, and a gibibyte (GiB) means 2³⁰, or 1,073,741,824 bytes.

[6] Read-modify-write is supported.

[7] When DC power is turned off, +5 V voltage must not be lower than 0 V.

[8] The read/write current is specified based on three operations of 63 sector read/write per 100 ms.

[9] The values are based on using S-ATA power management features. The Partial mode is used for the idle modes power consumption measurements and the Slumber mode is used for Standby and Sleep modes power consumption measurements. Motor is rotating at normal speed but heads are unloaded on the ramp.

*Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant TOSHIBA information and the instructions for the application that Product will be used with or for.

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