TOSHIBA
Leading Innovation

HDD

MQ01ABFxxx SERIES
CLIENT MOBILE THIN HDD



Product image may represent a design model.

KEY FEATURES

- Up to 500 GB of Storage Capacity
- 2.5-inch 7 mm Slim Form Factor
- 5,400 rpm
- SATA up to 6.0 Gbit/s
- Advanced Format (AF) 512e
- MTTF of 600,000 hours
- Low Power Consumption versus 3.5-inch HDDs (DT01ACA series)
- Quiet Operation versus 3.5-inch HDDs (DT01ACA series)
- RoHS Compatible, halogen free and antimony free
- Improved Performance with Native Command Queue (NCQ)
- Optimize HDD Health with SMART

APPLICATIONS

- Ultrabooks
- High-End Multimedia Devices

MAIN SPECIFICATIONS

Model Number		MQ01ABF050	MQ01ABF032
Interface		Serial ATA 3.0 / ATA-8	
Formatted Capacity		500 GB	320 GB
Performance	Interface Speed	6.0 Gbit/s Max.	
	Rotation Speed	5,400 rpm	
	Average Latency Time	5,56 ms	
	Buffer Size	8 MiB	
Logical Data Block Length	MQ01ABFxxx	HOST: 512 B, DISK: 4,096 B	
Supply Voltage	Allowable Voltage	5 V ± 5%	
Power Consumption	Read / Write	1.5 W Typ.	
	Low Power Idle	0.55 W Typ.	
Acoustics (Sound Power)	Idle	19 dB	
	Seek	21 dB	

RELIABILITY

Model Number	MQ01ABFxxx
MTTF	600,000 hours
Non-recoverable Error Rate	1 error per 10^{14} bits read

Copyright © 2017 Toshiba Corporation. All rights reserved.

MECHANICAL SPECIFICATIONS

Model Number	MQ01ABFxxx
Height	7.0mm Max.
Width	69.85 ± 0.25 mm
Length	100.45 mm Max.
Weight	92 g Max.

ENVIRONMENTAL LIMITS

Item		Specification
Temperature	Operating	5 °C to 55 °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 half sine wave)
	Non-Operating	8,820 m/s^2 {900 G} (1 ms half sine wave)
Vibration	Operating	9.8 m/s^2 {1.0 G} (5 to 500Hz)
	Non-Operating	49 m/s^2 {5.0 G} (15 to 500Hz)
Altitude	Operating	- 300 m to +3,000 m
	Non-Operating	- 300 m to +12,000 m

ENVIRONMENTAL FEATURE

Model Number	MQ01ABFxxx
RoHS	Compatible
Halogen free	Yes
Antimony free	Yes

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 = 2^{30} = 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.

A kibibyte (KiB) means 2^{10}, or 1,024 bytes, a mebibyte (MiB) means 2^{20}, or 1,048,576 bytes, and a gibibyte (GiB) means 2^{30}, or 1,073,741,824 bytes.

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.

Toshiba Storage & Electronic Devices Solutions Company defines "RoHS-Compatible" products as products that either (i) contain no more than a maximum concentration value of 0.1% by weight in Homogeneous Materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) and of 0.01% by weight in Homogeneous Materials for cadmium; or (ii) fall within any of the application exemptions set forth in the Annex to the RoHS Directive (Directive 2011/65/EC of the European Parliament and of the Council of 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment). "Homogeneous Material" means a material of uniform composition that cannot be mechanically disjointed (meaning separated, in principle, by mechanical actions such as unscrewing, cutting, crushing, grinding and/or abrasive processes) into different materials. Examples of "Homogeneous Materials" would be individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

Toshiba Storage & Electronic Devices Solutions Company defines halogen-free and antimony-free SSD and HDD products as those meeting all of the following requirements: (a) containing bromine (Br) and chlorine (Cl) at no more than 900 parts per million (ppm) by weight for each element, and containing bromine and chlorine in an aggregate amount not exceeding 1500 ppm by weight; and (b) containing no more than 1000 ppm antimony (Sb) by weight. For the avoidance of doubt, Halogen-Free/Antimony-Free SSD or HDD products may not be entirely free of bromine, chlorine, or antimony, and may contain other element of the halogen family.

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

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

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, and availability are all subject to change without notice.

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.

Copyright © 2017 Toshiba Corporation. All rights reserved.