TOSHIBA

HDD

❯ MG06ACA SERIES
ENTERPRISE CAPACITY HDD

The MG06ACA Enterprise Capacity HDD models provides up to 10TB[1] of capacity and 7,200 rpm performance, in a robust design engineered for nearline business-critical workloads.

The MG06ACA model generation utilizes industry-standard 3.5-inch[2] 26.1 mm height form factor and Advanced Format sector technologies for optimum capacity and data reliability. Models support Toshiba Persistent Write Cache technology[3] which helps enhance performance while assuring the consistency of write operations in the event of a sudden loss of power. Equipped with SATA 6.0 Gbit/s[4] interface, the Enterprise Capacity MG06ACA models help to save rack space and reduce the footprint and operational burden of business critical servers and storage systems.

The MG06ACA Series improves sustained transfer rate performance to 237 MiB/s[5] and increases MTTF[6] by 25% when compared to the prior MG05ACA series. 512e or 4Kn Advanced Format sector technology models are available.   4Kn sector models (MG06ACAxxxA) offer suitable performance and compatibility with the 4Kn-capable applications and operating environments. 512e sector models (MG06ACAxxxE) provide support for legacy applications and operating environments that require 512 byte sector lengths.

Product image may represent a design model.

❯ KEY FEATURES

- Industry Standard 3.5-inch 26.1 mm Height Form Factor
- Large 10TB Capacity; plus 8TB and 6TB MG06 Series models
- 7,200 rpm Performance
- SATA 6.0 Gbit/s Interface
- MTTF 2.5 M hours
- 550 Total TB Transferred per Year Workload Rating[7]
- 512e or 4Kn Advanced Format Sector Technology
- Toshiba Persistent Write Cache Technology for Data-Loss Protection in Sudden Power-Loss Events
- Improved sustained transfer rate
- Sanitize Instant Erase (SIE[8]) option model available

❯ APPLICATIONS

- Mid-line / Nearline Business Critical Workloads
- Tier 2 Business-Critical Servers and Storage Systems
- Workloads and Use-Cases that Benefit from High Capacity per Spindle
- Capacity-Optimized Storage Systems
- Cloud-scale Storage Infrastructure
- Data Archive and Back-up Infrastructure

❯ SPECIFICATIONS

Model Number		MG06ACA10TA MG06ACA10TE	MG06ACA800A MG06ACA800E	MG06ACA600A MG06ACA600E
Interface		SATA-3.3		
Formatted Capacity		10 TB	8 TB	6 TB
Performance	Interface Speed	6.0 Gbit/s, 3.0 Gbit/s, 1.5 Gbit/s		
	Rotation Speed	7,200 rpm		
	Buffer Size	256 MiB		
	Data Transfer Speed (Sustained)	237 MiB/s Typ.	230 MiB/s Typ.	
Logical Data Block Length	MG06ACAxxxA (fixed length)	4,096 B		
	MG06ACAxxxE (emulation)	Host 512B Disk 4,096B[9]		
Supply Voltage	Allowable Voltage	12 V[10] ± 10% / 5 V[10] +10/-7% [11]		
Power Consumption	Random Read/Write (4KB Q1)	10.0 W Typ.	9.1 W Typ.	8.3 W Typ.
	Active Idle (Idle-A)	7.3 W Typ.	6.4 W Typ.	5.6 W Typ.
Acoustics (Sound Power)	Idle[12]	34 dB Typ.		

Enterprise Capacity HDD MG06ACA Series Product Overview
Rev. 01

❯ ENVIRONMENTAL LIMITS

Item		Specification
Ambient temperature	Operating	5 °C to 55 °C
	Non-Operating	- 40 °C to 70 °C
Humidity	Operating	5 % to 90 % R.H.
	Non-Operating	5 % to 95 % R.H.
Shock	Operating	686 m/s^2 { 70 G } (2 ms duration)
	Non-Operating	2,450 m/s^2 { 250 G } (2 ms duration)
Vibration[13]	Operating[14]	7.35 m/s^2 { 0.75 G } (5- 300Hz) 2.45 m/s^2 { 0.25 G } (300- 500Hz)
	Non-Operating[15]	29.4 m/s^2 { 3.0 G } (5- 500Hz)
Altitude	Operating	- 305 m to 3,048 m
	Non-Operating	- 305 m to 12,192 m

[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 = 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.
[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] PWC with PLP is a function to handle the write data that the drive reports "Normal completion" to the host but not being stored to hard disk media yet. The write data may be written to the commanded LBA on the hard disk media. The un-written data to hard disk media is stored to Flash memory using back up power by PLP when the power supply to the drive suddenly is shut down. And, after PLP operation, it may be required more time to start up the drive than in case of normal shutdown. 1) PLP does not secure data in the mode of all the power shutdowns. When power supplies other than recommended procedure are intercepted, data might be lost. 2) In the power shutdown before it reports on the Write completion, data not anticipated might be lost.
[4] Read and write speed may vary depending on the host device, read and write conditions, and file size.
[5] 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 1,073,471,824 bytes.
[6] 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.
[7] Workload is defined as the amount of data written, read or verified by commands from host system.
[8] SIE: Sanitize Instant Erase. SIE is a function to invalidate the data recorded on the magnetic disks at a blink.
[9] Read–modify-write is supported.
[10] Input voltages are specified at the HDD connector side, during HDD ready state.
[11] Make sure the value is not less than -0.3V DC (less than -0.6V, 0.1ms) when turning o n or off the power.
[12] The measuring method is based on ISO 7779. Idle is active idle mode
[13] Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible.
[14] At random seek write/read and default on retry setting with log sweep vibration.
[15] At power-off state after installation

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.