



High storage capacity and reliability for Cloud and on-premise data centers

Cloud-scale Capacity HDDs are suitable in situations such as cloud data centers, which have to manage a massive volume of data. The MG Series includes the world's first nine disks* storage device, and offers up to 22TB of conventional magnetic recording capacity. Helium-sealed models also achieve higher storage recording density and significantly lower power consumption by reducing aero-dynamic resistance.

*Source: Toshiba Electronic Devices & Storage Corporation, as of December, 2017 for the 3.5-inch, 26.1mm high.

Cloud-scale Capacity Hard Disk Drive



MG Series Helium Sealed

A choice of SATA or SAS models up to 22TB

Durability and reliability

Toshiba's Persistent Write Cache Technology

The lineup includes products with a wide range of uses such as large-scale cloud data centers and more conventional server/storage systems. The highest capacity models help contribute to reduced TCO and a lower cost per unit of storage capacity.

With an annual workload of 550TB and MTTF of 2.5 million hours, this series is designed for business critical workloads that require consistent 24/365 performance with high reliability.

Helps to enhance write performance between the host and the drive, and also helps to prevent data loss in the event of a sudden loss of power (512e models).

Cloud-scale Capacity Hard Disk Drive

MG Series
Helium Sealed



Application

- Cloud-scale Storage Infrastructure
- Software-defined data center infrastructure
- File and Object-based storage infrastructure
- Mid-line / Nearline Business Critical Workloads
- Tier 2 Business-Critical Servers and Storage Systems
- Big Data, Compliance Archive

Specifications (22TB~16TB)

Formatted Capacity			22TB	20TB	18TB		16TB		
Model Number	SATA	4Kn	—	—	MG10ACA20TA	MG10ACA18TA	MG09ACA18TA	MG09ACA16TA	MG08ACA16TA
		512e	MG10AFA22TE*	MG10AFA20TE*	MG10ACA20TE	MG10ACA18TE	MG09ACA18TE	MG09ACA16TE	MG08ACA16TE
	SAS	4Kn	—	—	MG10SCA20TA	MG10SCA18TA	MG09SCA18TA	MG09SCA16TA	MG08SCA16TA
		512e	MG10SFA20TE*	MG10SFA20TE*	MG10SCA20TE	MG10SCA18TE	MG09SCA18TE	MG09SCA16TE	MG08SCA16TE
Specification									
Sealed		He							
Recording Technology		CMR							
Form Factor		3.5-inch (Height:26.1 mm, Length: 147.0 mm, Width:101.85 mm)							
Weight		720 g							
Interface		SATA : 6.0 Gbit/s SAS : 12.0 Gbit/s							
Rotation Speed		7200 rpm							
Buffer Size		512 MiB							
Reliability									
MTTF / MTBF		2.5 M hours							
Workloads		550 Total TB Transferred per Year							
Environmental Requirements									
Temperature	Operating	5 °C to 55 °C							
Vibration	Operating	7.35 m/s ² { 0.75 G } (5 - 300 Hz), 2.45 m/s ² { 0.25 G } (300 - 500 Hz)							
	Non-Operating	29.4 m/s ² { 3.0 G } (5 - 500 Hz)							
Shock	Non-Operating	1960 m/s ² { 200 G } (2 ms duration)				2450 m/s ² { 250 G } (2 ms duration)			
Acoustic	Idle	20 dB							

* Default format is 512e. Convertible to 4Kn format.

• Definition of capacity: One terabyte (TB) = one trillion bytes, but storage capacity actually available may vary depending on operating environment and formatting. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and/or pre-installed software applications, or media content. Actual formatted capacity may vary. • A mebibyte (MiB) means 2²⁰, or 1 048 576 bytes. • MTTF / MTBF (Mean Time to Failure / Mean Time Between Failure) is not a guarantee or estimate the 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. The actual product life of the product may vary. • Read and write speed may vary depending on the host device, read and write conditions, and file size. • "3.5-inch" means the form factor of HDDs. They do not indicate drive's physical size. • Workload is a measure of the data throughput of the year, and it is defined as the amount of data written, read or verified by commands from the host system. • Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for. • Company names, product names, and service names may be trademarks of their respective companies.

Cloud-scale Capacity Hard Disk Drive

Specifications (14TB~10TB)

Formatted Capacity		14TB		12TB		10TB	
Model Number	SATA	4Kn	MG09ACA14TA	MG07ACA14TA	MG09ACA12TA	MG07ACA12TA	MG09ACA10TA
		512e	MG09ACA14TE	MG07ACA14TE	MG09ACA12TE	MG07ACA12TE	MG09ACA10TE
	SAS	4Kn	MG09SCA14TA	MG07SCA14TA	MG09SCA12TA	MG07SCA12TA	MG09SCA10TA
		512e	MG09SCA14TE	MG07SCA14TE	MG09SCA12TE	MG07SCA12TE	MG09SCA10TE
Specification							
Sealed		He					
Recording Technology		CMR					
Form Factor		3.5-inch (Height:26.1 mm, Length: 147.0 mm, Width:101.85 mm)					
Weight		705 g	720 g	690 g	720 g	690 g	
Interface		SATA : 6.0 Gbit/s SAS : 12.0 Gbit/s					
Rotation Speed		7200 rpm					
Buffer Size		512 MiB	256 MiB	512 MiB	256 MiB	512 MiB	
Reliability							
MTTF / MTBF		2.5 M hours					
Workloads		550 Total TB Transferred per Year					
Environmental Requirements							
Temperature	Operating	5 °C to 55 °C					
Vibration	Operating	7.35 m/s ² { 0.75 G } (5 - 300 Hz), 2.45 m/s ² { 0.25 G } (300 - 500 Hz)					
	Non-Operating	29.4 m/s ² { 3.0 G } (5 - 500 Hz)					
Shock	Non-Operating	2450 m/s ² { 250 G } (2 ms duration)					
Acoustic	Idle	20 dB					

•Definition of capacity: One terabyte (TB) = one trillion bytes, but storage capacity actually available may vary depending on operating environment and formatting. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and/or pre-installed software applications, or media content. Actual formatted capacity may vary. •A mebibyte (MiB) means 2²⁰, or 1 048 576 bytes. •MTTF / MTBF (Mean Time to Failure / Mean Time Between Failure) is not a guarantee or estimate the 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. The actual product life of the product may vary. •Read and write speed may vary depending on the host device, read and write conditions, and file size. •"3.5-inch" means the form factor of HDDs. They do not indicate drive's physical size. •Workload is a measure of the data throughput of the year, and it is defined as the amount of data written, read or verified by commands from the host system. •Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for. •Company names, product names, and service names may be trademarks of their respective companies.

Toshiba Electronic Devices & Storage Corporation

<https://toshiba.semicon-storage.com/>