



## 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 18TB 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 18TB

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 (18TB~14TB)

Formatted Capacity			18TB	16TB	14TB	
Model Number	SATA	4Kn	MG09ACA18TA	MG09ACA16TA	MG09ACA14TA	MG07ACA14TA
				MG08ACA16TA		
		512e	MG09ACA18TE	MG09ACA16TE	MG09ACA14TE	MG07ACA14TE
				MG08ACA16TE		
	SAS	4Kn	MG09SCA18TA	MG09SCA16TA	MG09SCA14TA	MG07SCA14TA
				MG08SCA16TA		
		512e	MG09SCA18TE	MG09SCA16TE	MG09SCA14TE	MG07SCA14TE
				MG08SCA16TE		
Specification						
Sealed			He			
Recording Technology			CMR			
Form Factor			3.5-inch ( Height:26.1 mm, Length: 147.0 mm, Wide:101.85 mm )			
Weight			720 g	705 g	720 g	
Interface			SATA : 6.0 Gbit/s SAS : 12.0 Gbit/s			
Rotation Speed			7200 rpm			
Buffer Size			512 MiB		256 MiB	
Reliability						
MTTF			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 <sup>2</sup> { 0.75 G } ( 5 - 300 Hz ), 2.45 m/s <sup>2</sup> { 0.25 G } ( 300 - 500 Hz )				
	Non-Operating	29.4 m/s <sup>2</sup> { 3.0 G } ( 5 - 500 Hz )				
Shock	Non-Operating	2450 m/s <sup>2</sup> { 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 2<sup>20</sup>, or 1 048 576 bytes. •MTTF (Mean Time to Failure) of the HDDs during its life time is 2.5 million hours. This assumes 8760 h/year power on hours (24 hours per one day, 7 days per one week), up to 550TB/year total data transfers, and average HDA surface temperature:40°C or less. Use at case HDA surface temperature above 40°C may degrade product reliability and reduce warranty period. •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 (12TB~10TB)

Formatted Capacity			12TB		10TB
Model Number	SATA	4Kn	MG09ACA12TA	MG07ACA12TA	MG09ACA10TA
		512e	MG09ACA12TE	MG07ACA12TE	MG09ACA10TE
	SAS	4Kn	MG09SCA12TA	MG07SCA12TA	MG09SCA10TA
		512e	MG09SCA12TE	MG07SCA12TE	MG09SCA10TE
Specification					
Sealed			He		
Recording Technology			CMR		
Form Factor			3.5-inch ( Height:26.1 mm, Length: 147.0 mm, Wide:101.85 mm )		
Weight			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
Reliability					
MTTF			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 <sup>2</sup> { 0.75 G } ( 5 - 300 Hz ), 2.45 m/s <sup>2</sup> { 0.25 G } ( 300 - 500 Hz )			
	Non-Operating	29.4 m/s <sup>2</sup> { 3.0 G } ( 5 - 500 Hz )			
Shock	Non-Operating	2450 m/s <sup>2</sup> { 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 2<sup>20</sup>, or 1 048 576 bytes. •MTTF (Mean Time to Failure) of the HDDs during its life time is 2.5 million hours. This assumes 8760 h/year power on hours (24 hours per one day, 7 days per one week), up to 550TB/year total data transfers, and average HDA surface temperature:40°C or less. Use at case HDA surface temperature above 40°C may degrade product reliability and reduce warranty period. •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/>