TOSHIBA

MD07ACA SERIES
GENERIC DATA STORAGE HDD

Toshiba's MD07ACA series utilize Helium-sealed mechanical design to provide power-efficient 3.5-inch[1] SATA HDD, compared with previous model. In addition, the 14 TB model is powered by an Innovative 9-disk technology to realize the high capacity.

Thanks to the rotational speed of 7200 rpm, a 256 MiB memory buffer and MTTF 600 000 hours, the MD07ACA series offers the suitable reliability and performance for desktop PC and external storage use.

Product image may represent a design model.

KEY FEATURES

- 12 TB and 14 TB Capacity Models
- 7200 RPM
- SATA 6 Gbit/s Interface
- Innovative 9 disk Helium-sealed mechanical design
- Advanced Format 512-emulated sector technology
- 256 MiB Buffer

APPLICATIONS

- Desktop PC
- Personal External Storage
- Personal Content Archive

SPECIFICATIONS

Item		MD07ACA14T	MD07ACA12T
Interface		SATA-3.3	
Formatted Capacity [2]		14 TB	12 TB
Performance	Interface Speed [3]	6.0 Gbit/s, 3.0 Gbit/s, 1.5 Gbit/s	
	Rotation Speed	7200 rpm	
	Buffer Size	256 MiB [4]	
Logical Data Block Length [5]		Host:512 B, Disk:4096 B	
Supply Voltage	Allowable Voltage	12 V [6] ± 10 % / 5 V [6] ± 5% [7]	
Power Consumption	Active Idle (Typ.)	4.54 W	
Acoustics[8]	Active Idle (Typ.)	20 dB	

ENVIRONMENTAL LIMITS

Item		Specification
Ambient temperature	Operating	5 °C to 55 °C (No condensation)
	Non-Operating [9] [10]	-40 °C to 70 °C (No condensation)
	Storage condition & Period	0 °C to 70 °C (No condensation)
		6 months within shipping package
Relative Humidity	Operating	5 % to 90 % R.H. (No condensation)
	Non-Operating	5 % to 95 % R.H. (No condensation)
Altitude	Operating	- 305 m to 3048 m (No condensation)
	Non-Operating [9] [10]	- 305 m to 12 192 m (No condensation)
Shock [11]	Operating	686 m/s^2 { 70 G } (2 ms duration)
	Non-Operating	2450 m/s^2 { 250 G } (2 ms duration)
Vibration [11]	Operating [12]	7.35 m/s^2 { 0.75 G } (5 to 300 Hz) 2.45 m/s^2 { 0.25 G } (300 to 500 Hz)
	Non-Operating [13]	29.4 m/s^2 { 3.0 G } (5 to 500 Hz)

RELIABILITY

Item	Specification
MTTF [14]	600 000 hours
Non-recoverable Error Rate	1 error per 10^{14} bits read
Load / Unload	300 000 times

MECHANICAL SPECIFICATIONS

Item	Specification
Width	101.85 mm Max
Height	26.1 mm Max
Length	147.0 mm Max
Weight	720 g Max

[1] "3.5-inch" mean the form factor of HDDs. They do not indicate drive's physical size.
[2] Definition of capacity: Toshiba defines 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 1TB = 2^{40} = 1 099 511 627 776 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.
[3] Read and write speed may vary depending on the host device, read and write conditions, and file size.
[4] A mebibyte (MiB) means 2^{20}, or 1 048 576 bytes.
[5] Read–modify-write is supported.
[6] Input voltages are specified at the HDD connector side, during HDD ready state.
[7] Make sure the value is not less than -0.3 V DC (less than -0.6 V, 0.1 ms) when turning on or off the power.
[8] The measuring method is based on ISO 7779.
[9] Non-operating condition (except storage condition) assumes short term transportation.
[10] The range of altitude is 3048 m or less. Up to 55 °C at 7620 m. Up to 40 °C at 12 192 m.
[11] Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible.
[12] At random seek write/read and default on retry setting with log sweep vibration.
[13] At power-off state after installation
[14] 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.

・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.