Specialty

Automotive HDD

MQ01AAD032C / MQ01AAD020C / MQ01AAD010C

Toshiba's MQ01AADxxxC series of 2.5-inch, 4,200 rpm HDD are designed for the demanding automotive environments and industrial applications. The rugged design of the MQ01AADxxxC enables optimized operation at higher altitudes, greater temperature ranges and vibrational conditions compared to normal HDDs for PCs (MQ01ABD series). The MQ01AADxxxC is available in capacities up to 320 GB.

Key Features

- Altitude (Operating): -300 to +5,650 m
- Temperature Range: -30 to +85 °C (operating), -40 to +95 °C (non-operating)
- Vibrations of up to 3 G (29.4 m/s^2)
- 3.0 Gbit/s SATA Interface
- Small Form Factor Design

Applications

- Automotive
- Robotics
- Industrial

Documents

- Advanced Format Overview

Specifications

	MQ01AAD032C	MQ01AAD020C	MQ01AAD010C
Basic Specifications			
Interface	Serial ATA 2.6 / ATA8		
Interface Speed	3.0 Gbit/s , 1.5 Gbit/s		
Formatted Capacity	320 GB	200 GB	100 GB
Logical Data Block Length (HOST)	512 B		
Logical Data Block Length (DISK)	4,096 B		
Environmental Compliance	RoHS Compatible		
Performances			
Buffer Size	8 MiB		
Rotation Speed	4,200 rpm		
Average Latency Time	7.15 ms		
Reliability			
Unrecoverable Error Rate	1 per 10^{14} bits read		
Power Requirements			
Supply Voltage	5 V ±5 %		
Power Consumption (Read / Write)	2.0 W Typ.		
Power Consumption (Low Power Idle)	0.8 W Typ.		
Energy Consumption Efficiency / Category Name	0.00132/D	0.00210/D	0.00420/D
Dimensions			
Height	9.5 mm		
Width	69.85 mm		
Length	100.0 mm		
Weight	109 g Max.		
Environmental Requirements			
Temperature (Operating)	-30 to 85 °C		
Temperature (Non-operating)	-40 to 95 °C		
Humidity (Operating)	5 to 90 % R.H.		
Humidity (Non-operating)	5 to 95 % R.H.		
Altitude (Operating)	-300 to 5,650 m		
Altitude (Non-operating)	-300 to 12,000 m		
Vibration (Operating)	29.4 m/s^2 { 3.0 G } (8 to 50 Hz) 24.5 m/s^2 { 2.5 G } (50 to 200 Hz) 19.6 m/s^2 { 2.0 G } (200 to 500 Hz)		
Vibration (Non-operating)	49 m/s^2 { 5.0 G } (10 to 500 Hz)		
Shock (Operating)	2,940 m/s^2 { 300 G } (2 ms half sine)		
Shock (Non-operating)	7,840 m/s^2 { 800 G } (1 ms half sine)		
Acoustics (Sound Power)			
Idle	22 dB		
Seek	23 dB		

- Product image may represent design model.
- 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 1,073,471,824 bytes.
- 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.
- 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.
- Energy Consumption Efficiency: Energy consumption efficiency is calculated based on power consumption divided by formatted capacity, as defined by Japanese law.

Contacts

If you have any questions, click one of these links:

- Technical queries
  - Inquiry sheet
- Questions about purchasing, sampling and IC reliability
  - Toshiba Global Sales
  - For Online Purchase

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