

TOSHIBA

Level Up Your Drive Performance.

Toshiba X300 Performance Internal Hard Drive



Push your gaming and creative limits with the speed, reliability, and capacity of the Toshiba X300 Performance Internal Hard Drive. Optimized to handle high-end graphics and videos, the X300 is powered by a fast 7200 RPM drive with large cache size to minimize buffering time. Toshiba cache technology is designed to help eliminate lag for an ultra-responsive gaming experience. Plus, the X300 offers massive capacity to grow with your gaming and HD content. The X300 Performance Hard Drive works hard so you can play harder.

Image does not represent actual product.

TOSHIBA

Toshiba X300 Performance Internal Hard Drive

Application

Powerful desktop workstations / All-in-one PCs
Gaming computers / Home media computers



Product image may represent a design model.



Powerful

Designed for gaming
& high end desktop PCs



Responsive

Toshiba's cache technology
delivers real-time drive performance



Massive Capacity

Store your growing gaming
libraries & HD content



High Performance

7,200 RPM with large
cache size



Reliable

Ramp loading technology &
built-in shock sensors to
help protect your content



Toshiba X300 Performance Internal Hard Drive

Capacity ¹	20TB	18TB	16TB
Model Number (Retail Packaging)	HDWR62AXZSTA	HDWR51JXZSTA	HDWR51GXZSTA
Model Number (Bulk)	HDWR62AUZSVA	HDWR51JUZSVA	HDWR51GUZSVA

Basic Specifications

Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor²	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes
RoHS Compatible³	Yes	Yes	Yes
Sector Size	512e	512e	512e

Features

Native Command Queuing (NCQ)	Yes	Yes	Yes
Shock Sensors	Yes	Yes	Yes
Toshiba Cache Technology	Yes	Yes	Yes
Ramp Loading Technology	Yes	Yes	Yes
Recording Technology	CMR	CMR	CMR

Performances

Rotational Speed [RPM]	7,200	7,200	7,200
Cache Size [MB]	512	512	512

Reliability

Maximum Workload Rate [TB/Year] ^{4,8}	55	55	55
MTTF [Hours] ⁵	600,000	600,000	600,000
Unrecoverable Error Rate	1 per 10 ¹⁵	1 per 10 ¹⁴	1 per 10 ¹⁴
Load/Unload Cycles	300,000	300,000	300,000
Limited Warranty [Years] ⁶	2	2	2

Power Management

Supply Voltage	5 VDC +10 % / -7 % 12 VDC ± 10 %	5 VDC +10 % / -7 % 12 VDC ± 10 %	5 VDC +10 % / -7 % 12 VDC ± 10 %
Power Consumption (Operating) [W]	8.02	7.48	7.48
Power Consumption (Active Idle) [W]	4.41	4.14	4.14

Environmental

Temperature (Operating) [°C]	5 to 60 (surface)	5 to 60 (surface)	5 to 60 (surface)
Temperature (Non-Operating) [°C]	-40 to 70	-40 to 70	-40 to 70
Vibration (Operating) [m/s ²]	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)
Vibration (Non-Operating) [m/s ²]	29.4 {3.0 G} (5 to 500 Hz)	29.4 {3.0 G} (5 to 500 Hz)	29.4 {3.0 G} (5 to 500 Hz)
Shock (Operating) [m/s ²]	490 {50 G} (2 ms duration)	686 {70 G} (2 ms duration)	686 {70 G} (2 ms duration)
Shock (Non-Operating) [m/s ²]	1,960 {200 G} (2 ms duration)	2,450 {250 G} (2 ms duration)	2,450 {250 G} (2 ms duration)
Acoustics Idle Mode [dB]	20	20	20

Physical

Height [mm Max.]	26.1	26.1	26.1
Length [mm Max.]	147.0	147.0	147.0
Width [mm Max.]	101.85	101.85	101.85
Weight [g Max.]	720	720	720
Bottom Holes Type⁷	TYPE1	TYPE1	TYPE1



Toshiba X300 Performance Internal Hard Drive

Capacity ¹	14TB	12TB	10TB
Model Number (Retail Packaging)	HDWR51EXZSTA	HDWR51CXZSTA	HDWR71AXZSTA
Model Number (Bulk)	HDWR51EUZSVA	HDWR51CUZSVA	HDWR71AUZSVA

Basic Specifications

Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor ²	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes
RoHS Compatible ³	Yes	Yes	Yes
Sector Size	512e	512e	512e

Features

Native Command Queuing (NCQ)	Yes	Yes	Yes
Shock Sensors	Yes	Yes	Yes
Toshiba Cache Technology	Yes	Yes	Yes
Ramp Loading Technology	Yes	Yes	Yes
Recording Technology	CMR	CMR	CMR

Performances

Rotational Speed [RPM]	7,200	7,200	7,200
Cache Size [MB]	512	512	512

Reliability

Maximum Workload Rate [TB/Year] ^{4,8}	55	55	55
MTTF [Hours] ⁵	600,000	600,000	600,000
Unrecoverable Error Rate	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁵
Load/Unload Cycles	300,000	300,000	600,000
Limited Warranty [Years] ⁶	2	2	2

Power Management

Supply Voltage	5 VDC +10 % / -7 % 12 VDC ± 10 %	5 VDC +10 % / -7 % 12 VDC ± 10 %	5 VDC +10 % / -7 % 12 VDC ± 10 %
Power Consumption (Operating) [W]	7.38	6.85	9.07
Power Consumption (Active Idle) [W]	3.77	3.30	5.74

Environmental

Temperature (Operating) [°C]	5 to 60 (surface)	5 to 60 (surface)	5 to 60 (surface)
Temperature (Non-Operating) [°C]	-40 to 70	-40 to 70	-40 to 70
Vibration (Operating) [m/s ²]	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)
Vibration (Non-Operating) [m/s ²]	29.4 {3.0 G} (5 to 500 Hz)	29.4 {3.0 G} (5 to 500 Hz)	29.4 {3.0 G} (5 to 500 Hz)
Shock (Operating) [m/s ²]	686 {70 G} (2 ms duration)	686 {70 G} (2 ms duration)	686 {70 G} (2 ms duration)
Shock (Non-Operating) [m/s ²]	2,450 {250 G} (2 ms duration)	2,450 {250 G} (2 ms duration)	2,450 {250 G} (2 ms duration)
Acoustics Idle Mode [dB]	20	20	34

Physical

Height [mm Max.]	26.1	26.1	26.1
Length [mm Max.]	147.0	147.0	147.0
Width [mm Max.]	101.85	101.85	101.85
Weight [g Max.]	705	690	755
Bottom Holes Type ⁷	TYPE1	TYPE1	TYPE1



Toshiba X300 Performance Internal Hard Drive

Capacity ¹	8TB	6TB	4TB
Model Number (Retail Packaging)	HDWR780XZSTA	HDWR760XZSTA	HDWR740XZSTA
Model Number (Bulk)	HDWR780UZSVA	HDWR760UZSVA	HDWR740UZSVA

Basic Specifications

Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor²	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes
RoHS Compatible³	Yes	Yes	Yes
Sector Size	512e	512e	512e

Features

Native Command Queuing (NCQ)	Yes	Yes	Yes
Shock Sensors	Yes	Yes	Yes
Toshiba Cache Technology	Yes	Yes	Yes
Ramp Loading Technology	Yes	Yes	Yes
Recording Technology	CMR	CMR	CMR

Performances

Rotational Speed [RPM]	7,200	7,200	7,200
Cache Size [MB]	512	512	512

Reliability

Maximum Workload Rate [TB/Year] ^{4,8}	55	55	55
MTTF [Hours] ⁵	600,000	600,000	600,000
Unrecoverable Error Rate	1 per 10 ¹⁵	1 per 10 ¹⁵	1 per 10 ¹⁵
Load/Unload Cycles	600,000	600,000	600,000
Limited Warranty [Years] ⁶	2	2	2

Power Management

Supply Voltage	5 VDC +10 % / -7 % 12 VDC ± 10 %	5 VDC +10 % / -7 % 12 VDC ± 10 %	5 VDC +10 % / -7 % 12 VDC ± 10 %
Power Consumption (Operating) [W]	8.19	7.43	6.75
Power Consumption (Active Idle) [W]	4.92	4.14	3.49

Environmental

Temperature (Operating) [°C]	5 to 60 (surface)	5 to 60 (surface)	5 to 60 (surface)
Temperature (Non-Operating) [°C]	-40 to 70	-40 to 70	-40 to 70
Vibration (Operating) [m/s ²]	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)	7.35 {0.75 G} (5 to 300 Hz) 2.45 {0.25 G} (300 to 500 Hz)
Vibration (Non-Operating) [m/s ²]	29.4 {3.0 G} (5 to 500 Hz)	29.4 {3.0 G} (5 to 500 Hz)	29.4 {3.0 G} (5 to 500 Hz)
Shock (Operating) [m/s ²]	686 {70 G} (2 ms duration)	686 {70 G} (2 ms duration)	686 {70 G} (2 ms duration)
Shock (Non-Operating) [m/s ²]	2,450 {250 G} (2 ms duration)	2,450 {250 G} (2 ms duration)	2,450 {250 G} (2 ms duration)
Acoustics Idle Mode [dB]	34	34	34

Physical

Height [mm Max.]	26.1	26.1	26.1
Length [mm Max.]	147.0	147.0	147.0
Width [mm Max.]	101.85	101.85	101.85
Weight [g Max.]	730	710	690
Bottom Holes Type⁷	TYPE1	TYPE1	TYPE1



Toshiba Consumer Internal Hard Drives.

A drive for every storage application.



Image does not represent actual product.

To see our full line of consumer HDD storage products, visit: storage.toshiba.com/consumer-hdd

¹ One Gigabyte (1GB) means $10^9 = 1,000,000,000$ bytes and One Terabyte (1TB) means $10^{12} = 1,000,000,000,000$ bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of $1\text{GB} = 2^{30} = 1,073,741,824$ bytes and $1\text{TB} = 2^{40} = 1,099,511,627,776$ 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 and other factors.

² 2.5-inch and 3.5-inch mean the form factor of HDDs. They do not indicate drive's physical size.

³ 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.

⁴ Annual Workload Rating: HDDs keep track of various drive usage such as power on hours, lifetime writes and lifetime reads from the host computer. With this data we calculate an Annualized Workload Rate, under 40 deg. C ambient environments, $\text{Annualized Workload Rate} = (\text{Lifetime Writes} + \text{Lifetime Reads}) * (8760 / \text{Lifetime Power On Hours})$ in case Power On time is 8760h or longer. Otherwise (i.e. Power On time is shorter than 8760h), $\text{Annualized Workload Rate} = (\text{Lifetime Writes} + \text{Lifetime Reads})$ Each drive is designed to perform up to the Annualized Workload Rate stated, after which the drive may be expected to decline. The Annualized Workload Rate in no way alters the warranty policy for such drive. Workload is defined as the amount of data written, read or verified by commands from host system.

⁵ 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.

⁶ Standard limited warranty applies. The warranty brochure can be viewed online at <http://storage.toshiba.com/consumer-hdd/warranty-info>.

⁷ Location of bottom mounting hole is different from product. For more information, please see the following page. <https://toshiba.semicon-storage.com/us/design-support/faq/storage-holes.html>

⁸ Drive life may vary depending on usage and workload. See also MTTF and Annual Workload Rating for more detail.

Product prices, specifications, configurations, colors, components, features, and availability are subject to change without notice.
Compatibility may vary depending on user's hardware configuration and operating system.

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