

**TOSHIBA**

# Capture Every Moment.

Toshiba S300 Surveillance Internal Hard Drive



For those serious about security, the Toshiba S300 Surveillance Internal Hard Drive has you covered from every angle. The S300 offers equally high performance and surveillance-critical reliability designed for 24/7 operation in your home office and small office video surveillance systems. Engineered for high durability, the S300 Surveillance Hard Drive supports a high workload rating and is tested to perform around-the-clock and never sleeps – so that you can.

Image does not represent actual product.

# Toshiba S300 Surveillance Internal Hard Drive

## Application

Surveillance Network Video Recorders (sNVR)  
Surveillance DigitalVideo Recorders (sDVR)  
Hybrid sDVR (analog and IP) / RAID Storage Arrays for Surveillance



Product image may represent a design model.



### Robust Performance

Workload rate of up to 180 TB/yr<sup>7</sup>  
MTTF up to 1 million hours<sup>8</sup>



### Built to Last

Mitigate Rotational Vibration  
with built-in RV sensors.  
Designed to work in a wide  
temperature range



### Optimized Recording & Playback

Large cache size and fast  
data transfer speed help  
reduce frame loss



### High Reliability

Designed for 24/7  
security systems



### Rich Scalability

Support up to 64 HD cameras<sup>4</sup>



### Massive Capacity

Capture and retain  
surveillance-critical frame



### Peace of Mind

Toshiba Three-year  
limited warranty<sup>9</sup>

## Toshiba S300 Surveillance Internal Hard Drive

Capacity <sup>1</sup>	<u>10TB</u>	<u>8TB</u>	<u>6TB</u>	<u>5TB</u>	<u>4TB</u>
<b>Model Number (Retail Packaging)</b>	HDWT31AUZSVAR	HDWT380UZSVAR	HDWT360UZSVAR	HDWT150UZSVAR	HDWT140UZSVAR
<b>Model Number (Bulk)</b>	HDWT31AUZSVA	HDWT380UZSVA	HDWT360UZSVA	HDWT150UZSVA	HDWT140UZSVA
<b>Basic Specifications</b>					
<b>Interface</b>	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
<b>Form Factor<sup>2</sup></b>	3.5-inch	3.5-inch	3.5-inch	3.5-inch	3.5-inch
<b>Advanced Format (AF)</b>	Yes	Yes	Yes	Yes	Yes
<b>RoHS Compatible<sup>3</sup></b>	Yes	Yes	Yes	Yes	Yes
<b>Features</b>					
<b>Number of Cameras Supported<sup>4</sup></b>	64	64	64	32	32
<b>Driver Bays Supported<sup>5</sup></b>	8+	8+	8+	1 to 8	1 to 8
<b>Rotational Vibration (RV) Sensors</b>	Yes	Yes	Yes	Yes	Yes
<b>Shock Sensor</b>	Yes	Yes	Yes	Yes	Yes
<b>Drive Stabilization Technology</b>	Yes	Yes	Yes	Yes	Yes
<b>Toshiba Cache Technology</b>	Yes	Yes	Yes	Yes	Yes
<b>Performance</b>					
<b>Rotational Speed [RPM]</b>	7,200	7,200	7,200	5,400	5,400
<b>Max Data Transfer Speed<sup>6</sup> [MB/s Typ.] (Sustained)</b>	Up to 248	Up to 241	Up to 241	Up to 157	Up to 157
<b>Cache Size [MB]</b>	256	256	256	128	128
<b>Reliability</b>					
<b>24x7 Operation</b>	Yes	Yes	Yes	Yes	Yes
<b>Workloads [TB/Year]<sup>7</sup></b>	180	180	180	110	110
<b>MTTF [Hours]<sup>8</sup></b>	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
<b>Unrecoverable Error Rate</b>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>
<b>Load/Unload Cycles</b>	600,000	600,000	600,000	600,000	600,000
<b>Limited Warranty<sup>9</sup> [Years]</b>	3	3	3	3	3
<b>Power Management</b>					
<b>Supply Voltage</b>	5 V DC +6 / -5 % 12 V DC ±10 %	5 V DC +6 / -5 % 12 V DC ±10 %	5 V DC +6 / -5 % 12 V DC ±10 %	5 V DC ±5 % 12 V DC ±10 %	5 V DC ±5 % 12 V DC ±10 %
<b>Power Consumption (Operating) [W]</b>	9.48	8.61	7.88	7.50	7.50
<b>Power Consumption (Idle) [W]</b>	7.15	6.33	5.59	4.0	4.0
<b>Environmental</b>					
<b>Temperature (Operating) [°C]</b>	0 to 70 (surface)	0 to 70 (surface)	0 to 70 (surface)	0 to 70 (surface)	0 to 70 (surface)
<b>Temperature (Non-operating) [°C]</b>	-40 to 70	-40 to 70	-40 to 70	-40 to 70	-40 to 70
<b>Vibration (Operating)</b>	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)
<b>Vibration (Non-Operating)</b>	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	49.0 m/s <sup>2</sup> {5.0G} (5 to 500Hz)	49.0 m/s <sup>2</sup> {5.0G} (5 to 500Hz)
<b>Shock (Operating)</b>	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)
<b>Shock (Non-operating)</b>	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,940 m/s <sup>2</sup> {300G} (2 ms duration)	2,940 m/s <sup>2</sup> {300G} (2 ms duration)
<b>Acoustics (Idle Model) [dB]</b>	34	34	34	26	26
<b>Physical</b>					
<b>Height [mm Max.]</b>	26.1	26.1	26.1	26.1	26.1
<b>Length [mm Max.]</b>	147	147	147	147	147
<b>Width [mm Max.]</b>	101.85	101.85	101.85	101.85	101.85
<b>Weight [g Max.]</b>	770	770	770	720	720
<b>Bottom Holes Type<sup>10</sup></b>	TYPE1	TYPE1	TYPE1	TYPE2	TYPE2



<sup>1</sup> 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 1GB =  $2^{30} = 1,073,741,824$  bytes and 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 and other factors.

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

<sup>3</sup> 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.

<sup>4</sup> Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras at 10Mbit/s rate. Actual results may vary based on various factors, including the types of cameras installed, the system's hardware and software capabilities, and the video compression technology used, as well as system variables such as resolution, frames per second, and other settings. Compatibility may vary depending on user's hardware configuration and operating system. "High Definition" is calculated assuming Full HD 1080p, 30fps, transfer rate of 10Mbps/stream.

<sup>5</sup> As for "Drive Bays Supported", please contact your Solutions Provider because the compatibility with the host device will vary based on the system.

<sup>6</sup> The maximum sustained data rate and interface speed may be restricted to the response speed of host system and by transmission characteristics. Read and write speed may vary depending on the host device, read and write conditions, and file size.

<sup>7</sup> 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, Annualized Workload Rate = (Lifetime Writes + Lifetime Reads) \* (8760 / Lifetime Power On Hours) in case Power On time is 8760h or longer. Otherwise (i.e. Power On time is shorter than 8760h), Annualized Workload Rate = (Lifetime Writes + 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.

<sup>8</sup> 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.

<sup>9</sup> Standard limited warranty applies. The warranty brochure can be viewed online at <http://storage.toshiba.com/consumer-hdd/warranty-info>.

<sup>10</sup> 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>

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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