

HDD

> **AL13SXBxxEx SERIES**
ENTERPRISE PERFORMANCE HDD



> **KEY FEATURES**

- 600, 450 and 300 GB Capacity Models
- Space Efficient, Power Saving 2.5-inch Form Factor
- 12.0 Gbit/s SAS Interface for better Performance
- Performance and Industry Leading Low Latency (2.0ms)
- Rotational Speed of 15,000 rpm
- 24/7 Mission Critical Workload Performance and Data Reliability
- 512n sector length support in all capacities for optimum application compatibility
- Toshiba Persistent Write Cache Technology

> **APPLICATIONS**

- Tier 1 Mission-Critical Servers and RAID Storage
- Servers hosting transaction-based applications
- Rack-Optimized Data Centers
- High-performance computing

> **MAIN SPECIFICATIONS**

Model Number		AL13SXB60EA	AL13SXB45EA	AL13SXB30EA
		AL13SXB60EE	AL13SXB45EE	AL13SXB30EE
		AL13SXB60EN	AL13SXB45EN	AL13SXB30EN
Interface		SAS-3.0 (12.0 Gbit/s , 6.0 Gbit/s , 3.0 Gbit/s , 1.5 Gbit/s)		
Formatted Capacity		600 GB	450 GB	300 GB
Performance	Interface Speed	12.0 Gbit/s Max.		
	Rotation Speed	15,000 rpm		
	Average Latency Time	2.0 ms		
	Buffer Size	128 MiB		
Logical Data Block Length (HOST)	AL13SXB**EA	4,096 B , 4,160 B , 4,192 B , 4,224 B		
	AL13SXB**EE, AL13SXB**EN	512 B , 520 B , 524 B , 528 B		
Logical Data Block Length (DISK)	AL13SXB**EA, AL13SXB**EE	4,096 B , 4,160 B , 4,192 B , 4,224 B		
	AL13SXB**EN	512 B , 520 B , 524 B , 528 B		
Supply Voltage	Allowable Voltage	5 V ± 5 % 12 V ± 5 %		
Power Consumption	Read / Write	8.7 W Max.		
	Low Power Idle	4.5 W Typ.		

> **RELIABILITY**

Model Number	AL13SXBxxEx
MTTF	2,000,000 hours
Non-recoverable Error Rate	10 errors per 10 ¹⁷ bits read

> MECHANICAL SPECIFICATIONS

Model Number	AL13SXBxxEx
Height	15.0 mm ± 0,5 mm Max.
Width	69.85 mm ± 0.25 mm Max.
Length	100.45 mm Max.
Weight	230 g Max.

> ENVIRONMENTAL LIMITS

Item		Specification
Temperature	Operating	5 °C to 55 °C
	Non-Operating	- 40 °C to 70 °C
Humidity	Operating	5 % to 95 % R.H. (No condensation)
	Non-Operating	5 % to 95 % R.H. (No condensation)
Shock	Operating	980 m/s ² { 100 G } (1 ms duration)
	Non-Operating	3,920 m/s ² { 400 G } (2 ms duration)
Vibration	Operating	9.8 m/s ² { 1.0 G } (20 to 300 Hz)
	Non-Operating	49 m/s ² { 5.0 G } (20 to 300 Hz)
Altitude	Operating	-305 m to +3,048 m { -1,000 to +10,000 feet }
	Non-Operating	-305 m to +12,192 m { -1,000 to +40,000 feet }

Model Number	AL13SXBxxEx
RoHS	Compatible

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 = 2³⁰ = 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 2¹⁰, or 1,024 bytes, a mebibyte (MiB) means 2²⁰, or 1,048,576 bytes, and a gibibyte (GiB) means 2³⁰, or 1,073,471,824 bytes.

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.

Toshiba Semiconductor & Storage Products 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.

Subject to Change: While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, and availability are all subject to change without notice.

Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant TOSHIBA information and the instructions for the application that Product will be used with or for.