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TOSHIBA ANNOUNCES NEXT GENERATION 15,000 RPM ENTERPRISE PERFORMANCE HARD DISK DRIVES

New 2.5-inch HDDs in capacities up to 600GB with optional self-encryption

IRVINE, Calif. — March 3, 2014 — The Storage Products Business Unit of Toshiba America Electronic Components, Inc., a committed technology leader, announces new additions to the enterprise capacity hard disk drives (HDD) – the AL13SXB and the self-encrypting AL13SXQ. With a 2.5-inch form factor, the AL13SXB and AL13SXQ have 15mm z-height and spin at speeds up to 15,000 rotations per minute (RPM), making the AL13SX series suitable for mission critical enterprise storage applications.

The AL13SX series comes in 300GB¹, 450GB and 600GB capacities, and delivers high performance in 600GB capacity while supporting industry standard 512n sector lengths in a space efficient 2.5-inch form-factor. The 4K native sector and 512e emulation models of the drives include Toshiba’s persistent write cache technology for improved data integrity and performance. Overall, the AL13SX series supports high storage density, saving rack space and reducing mission critical storage footprint and operational burden for enterprise customers.

“The 15,000 RPM disk continues to be the backbone of mission critical IT operations. Toshiba’s AL13SX doubles available capacity while preserving the low-latency and energy efficiency customers require,” said Don Jeanette, senior director of marketing at Toshiba Storage Products Business Unit. “While older 3.5-inch 15,000 RPM disk drives are withdrawing from the market, the AL13SX provides a clear migration path to 2.5-inch models with the same 600GB capacity and lower latency

¹ 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.

for improved performance with a significant power savings – a real win-win for the important mission-critical storage category².”

For more information on Toshiba’s line of industry-leading SSDs, HDDs and SSHDs, visit www.toshibastorage.com. To connect with Toshiba Storage, visit the corporate blog at <http://storage.toshiba.com/corporateblog/> and follow [@ToshibaStorage](https://twitter.com/ToshibaStorage) on Twitter.

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Specifications

Standard Model	AL13SXB600N	AL13SXB450N	AL13SXB300N
Logical data block length	512, 520, 528 B		
Long Sector Model	AL13SXB600A/E	AL13SXB450A/E	AL13SXB300A/E
Logical data block length (fixed length) (AL13SXBxxxA)	4096, 4160, 4224 B		
Logical data block length (emulation) (AL13SXBxxxE)	512, 520, 528 B		
Basic specification			
Interface	SAS-2.0 (1.5 Gbit/s, 3.0 Gbit/s, 6.0 Gbit/s) ³		
Formatted Capacity	600GB	450GB	300GB
Performance⁴			
Buffer size	64MiB		
Rotation speed	15,000 RPM		
Average Latency time	2.0 ms		
Average seek time (Read)	2.7 ms		
Average seek time (Write)	2.95 ms		
Sustained transfer rate (Max.)	228 MiB/s Standard Models 243 MiB/s Long Sector Models		
Reliability			

² Comparisons are based comparing the AL13SX series and Toshiba’s prior generation MK01GRRR series.

³ Interface speed may vary depending on the host device, read and write conditions, and file size.

⁴ Read and write speed may vary depending on the host device, read and write conditions, and file size.

Load/Unload	600,000 times		
MTTF	2,000,000 hours		
Operating condition	24 hours/day, 7days/week		
Supply Voltage			
Allowable Voltage	12V \pm 5%, 5V \pm 5%		
Power consumption			
Read/Write	9.0 W		
Idle	5.8 W (Typ.)		
Dimension			
Height	15 mm		
Width	69.85 mm		
Depth	100.45 mm		
Weight	0.23 kg		
Temperature			
Operating	5 to 55°C		
Non-Operating	-40 to 70°C		
Vibration/Shock			
Vibration (op)	0.6mm (5 ~ 20Hz) 9.8m/s ² {1G} (20 ~ 300Hz)		
Vibration (non-op)	3.1mm (5 ~ 20Hz) 49m/s ² {5G} (20 ~ 300Hz)		
Shock (op)	980m/s ² {100G} (1ms duration)		
Shock (non-op)	3,920m/s ² {400G} (2ms duration)		
Acoustics			
Idle	33 dB		
Warranty			
Security Models (Native)	AL13SXBxxxNY	AL13SXQxxxN	AL13SXQxxxNB
Security Models (Long Sector)	AL13SXBxxxA/EY	AL13SXQxxxA/E	AL13SXQxxxA/EB
SIE (Sanitize Instant Erase)	X	X	X
TCG (Trusted Computing Group Enterprise-SSC Protocol)		X	X
FIPS (Federal Information Processing Standard 140-2)			X

About Toshiba Storage Products

Toshiba Corporation and its affiliates offer one-of-a-kind global storage solutions, offering hard disk drives (HDDs), solid state drives (SSDs) and NAND flash memories — technologies that drive a wide range of consumer electronics, computer and automotive applications, as well as enterprise solutions for the global marketplace. Toshiba is a leader in the development, design and manufacture of mobile,

consumer and enterprise hard disk drives and solid state drives. In North America, the Storage Products Business Unit of Toshiba America Electronic Components, Inc., markets high-quality storage peripherals to original equipment manufacturers, original design manufacturers, value-added resellers, value-added dealers, systems integrators and distributors worldwide. Inherent in the Toshiba storage family are the high-quality engineering and manufacturing capabilities that have established Toshiba products as innovation leaders worldwide. For more information, visit www.toshibastorage.com.

About Toshiba Corp. and Toshiba America Electronic Components, Inc. (TAEC)

Through proven commitment, lasting relationships and advanced, reliable electronic components, Toshiba enables its customers to create market-leading designs. Toshiba is the heartbeat within product breakthroughs from OEMs, ODMs, CMs, VARs, distributors and fabless chip companies worldwide. A committed electronic components leader, Toshiba designs and manufactures high-quality flash memory-based storage solutions, solid state drives (SSDs), hard disk drives (HDDs), discrete devices, advanced materials, medical tubes, custom SoCs/ASICs, imaging products, microcontrollers and wireless components that make possible today's leading smartphones, tablets, MP3 players, cameras, medical devices, automotive electronics, enterprise solutions and more.

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