

Toshiba HK4 Series 6 Gbit/s SATA
SSDs – Encrypted and non-encrypted for
Enterprise and Datacenter Applications





### **Quick Comparison**

Family	Applications	Capacity <sup>1</sup>	Random Read/Write <sup>3</sup>	Sequential Read/Write⁴
HK4E	Mixed Use	200 GB - 1600 GB	Up to 75K/30K IOPS <sup>2</sup>	Up to 524/503 MB/s
HK4R	Read Intensive	120 GB - 1920 GB	Up to 75K/14K IOPS <sup>2</sup>	Up to 524/503 MB/s

# **HK4E Series: Mixed Use SSD For Enterprise and Datacenter Applications**

Toshiba's HK4E enterprise SATA SSD series is designed for mixed read and write workload environments. It offers optimized latency, power, performance and encryption capabilities for data center and enterprise applications.

### **HK4E Specifications**

Capacity <sup>1</sup>	200 GB, 400 GB, 800 GB, 1600 GB	Warranty <sup>6</sup>	5 Years
Random Read³ IOPS²	200 GB - 1600 GB: 75,000	Random Write <sup>3</sup> IOPS <sup>2</sup>	200 GB: 20,000; 400 GB - 1600 GB: 30,000
Sequential Read⁴ MB/s	200 GB - 1600 GB: 524	Sequential Write <sup>4</sup> MB/s	200 GB: 283; 400 GB - 1600 GB: 503
Drive Writes Per Day⁵	3 DWPD	Minimum Terabytes Written <sup>7</sup>	200GB: 1,095 TB; 400GB: 2,190 TB 800GB: 4,380 TB; 1600GB: 8,760 TB

#### **HK4E Ordering Information**

Capacity <sup>1</sup>	Form Factor	Dell Part #	Toshiba Part #
200 GB	2.5-inch	X1RMG	THNSF8200CCSE
200 GB	1.8-inch	Y7MDD	THNSF8200CAME
400 GB	2.5-inch	VKT80	THNSF8400CCSE
400 GB	1.8-inch	853HG	THNSF8400CAME
800 GB	2.5-inch	VCRY6	THNSF8800CCSE
800 GB	1.8-inch	WCKOG	THNSF8800CAME
1600 GB	2.5-inch	DMF5Y	THNSF81D60CSE
1000 GB	2.5-inch SED	NN7D7	THNSF81Q60CSE
SSD models are qualified in most other	PowerEdge server models. Please consult	your Dell EMC sales tool (Dellstar, Gii, etc.)	



# HK4R: Read Intensive SATA SSD For Enterprise and Datacenter Applications

Toshiba's HK4R enterprise SATA SSD series is designed for read intensive workload environments. It offers optimized latency, power, performance and encryption capabilities for data center and enterprise applications.

#### **HK4R Specifications**

Capacity <sup>1</sup>	120 GB, 240 GB, 480 GB, 960 GB, 1920 GB	Warranty <sup>6</sup>	5 Years
Random Read³ IOPS²	120 GB - 1920 GB: 75,000	Random Write <sup>3</sup> IOPS <sup>2</sup>	120 GB: 4,000; 240 GB: 10,000 480 GB: 12,000; 960 GB - 1920 GB: 14,000
Sequential Read⁴ MB/s	120 GB - 1920 GB: 524	Sequential Write⁴ MB/s	120 GB: 126; 240 GB: 283; 480 GB - 1920 GB: 503
Drive Writes Per Day⁵	1 DWPD	Minimum Terabytes Written <sup>7</sup>	120 GB: 219 TB; 240GB: 438 TB; 480GB: 876 TB 960 GB: 1,752 TB; 1920GB: 3,504 TB

#### **HK4R Ordering Information**

Capacity <sup>1</sup>	Form Factor	Dell Part #	Toshiba Part #
120 GB	2.5-inch	PGNY6	THNSF8120PCSE
	1.8-inch	HJKFJ	THNSF8120CAME
240 GB	2.5-inch	JGY8V	THNSF8240PCSE
	1.8-inch	1K6KP	THNSF8240CAME
480 GB	2.5-inch	8RRW8	THNSF8480CCSE
	1.8-inch	KYYF9	THNSF8480CAME
960 GB	2.5-inch	31Y1M	THNSF8960CCSE
	1.8-inch	TCWK8	THNSF8960CAME
1920 GB	2.5-inch	V7HCN	THNSF81D92CSE
	2.5-inch SED	V664P	THNSF81Q92CSE
SSD models are qualified in	n most other PowerEdge server models. Ple	ase consult your Dell EMC sales tool (De	ellstar, Gii, etc.).

Product specifications, features, and availability are subject to change without notice.

Dell and PowerEdge are trademarks of Dell, Inc.

PCIe is a trademark or registered trademark of PCI-SIG

<sup>&</sup>lt;sup>1</sup> 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<sup>30</sup> = 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.

<sup>&</sup>lt;sup>2</sup> IOPS: Input Output Per Second (or the number of I/O operations per second).

<sup>&</sup>lt;sup>3</sup>This performance is based on a random 4K read/write workload. Read and write speed may vary depending on the host device, read and write conditions, and file size.

<sup>&</sup>lt;sup>4</sup>This performance is based on a sequential 64K read/write workload. Read and write speed may vary depending on the host device, read and write conditions, and file size.

<sup>&</sup>lt;sup>5</sup> DWPD: Drive Write Per Day. One full drive write per day means the drive can be written and re-written to full capacity once a day every day for five years, the stated product warranty period. Actual results may vary due to system configuration, usage and other factors. This is computed assuming a worst case 4K random workload.

<sup>&</sup>lt;sup>6</sup>The Dell Branded SSD warranty terms and service are covered by Dell Corporation and not Toshiba.

 $<sup>^{\</sup>rm 7}\,{\rm Measured}$  using worst-case 4K random write workload.

PLP (Power Loss Protection): PLP supports to record data in buffer memory to NAND flash memory, utilizing back up power of solid capacitor in case of sudden supply shut down.