

**SSD**

> **PX05SRB/PX05SRQ SERIES  
ENTERPRISE READ INTENSIVE SSD**

The PX05S Series is our 4th generation enterprise SAS SSD leveraging the highly successful PX04S Series. The PX05SR Series is designed for read-intensive application workloads including web servers, data warehousing, media streaming and VOD and offers large capacities up to 4TB with 12.0 Gbit/s SAS interface.

The series' 270K IOPS sustained random read performance and 1,500 - 1,900 MB/s sequential read performance helps read-intensive application workloads to realize superior results and assists organizations in minimizing total cost of ownership while maintaining high performance, reliability and endurance for maximum scalability.

Optimized for applications demanding 1 Drive Writes Per Day (DWPD), the family is equipped with unique customer-tunable feature allowing optimization for maximum performance or power efficiency. Additional features include power-loss protection and full data path protection. Each model supports pin-3 power disable for improved enclosure services control over storage media. Self-encrypting drive options with instant secure erase are also available.



> **KEY FEATURES**

- 270K IOPS random read (4K) performance
- 1 DWPD with 100% Random Write Workload
- Power-Loss-Protection and End-to-End Data Protection including T10 DIF
- Pin-3 Power Disable Support
- Sanitize Instant Erase (SIE) Option
- Self-Encrypting (SED) Option
- Self-Encrypting (SED), FIPS Certified Option
- 5-year limited warranty

> **APPLICATIONS**

- Data Warehousing
- Web Servers
- Media Streaming
- Video on Demand (VOD)

> **MAIN SPECIFICATIONS**

Model Number		PX05SRB384	PX05SRB192	PX05SRB096	PX05SRB048
SIE Model Number		PX05SRB384Y	PX05SRB192Y	PX05SRB096Y	PX05SRB048Y
SED Model Number		PX05SRQ384	PX05SRQ192	PX05SRQ096	PX05SRQ048
SED FIPS Model Number		PX05SRQ384B	PX05SRQ192B	PX05SRQ096B	PX05SRQ048B
Interface		SAS-3.0			
Formatted Capacity		3,840 GB	1,920 GB	960 GB	480 GB
Performance	Interface Speed	12.0 Gbit/s , 6.0 Gbit/s , 3.0 Gbit/s , 1.5 Gbit/s			
	Memory Type	MLC			
	Sustained 64KiB Sequential Read	1,400 MiB/s	1,800 MiB/s		
	Sustained 64KiB Sequential Write	750 MiB/s	850 MiB/s		
	Sustained 4KiB Random Read	270,000 IOPS			
	Sustained 4KiB Random Write	25,000 IOPS			19,000 IOPS
Supply Voltage	Allowable Voltage	5 V ± 7% 12 V ± 7 %			
Power Consumption		3.2 W Typ.			

Model Number	PX05SRB400	PX05SRB200	PX05SRB100	PX05SRB050
SIE Model Number	PX05SRB400Y	PX05SRB200Y	PX05SRB100Y	PX05SRB050Y
SED Model Number	PX05SRQ400	PX05SRQ200	PX05SRQ100	PX05SRQ050
SED FIPS Model Number	PX05SRQ400B	PX05SRQ200B	PX05SRQ100B	PX05SRQ050B
Interface	SAS-3.0			
Formatted Capacity	4,000 GB	2,000 GB	1,000 GB	500 GB
Performance	Interface Speed	12.0 Gbit/s , 6.0 Gbit/s , 3.0 Gbit/s , 1.5 Gbit/s		
	Memory Type	MLC		
	Sustained 64KiB Sequential Read	1,500 MiB/s	1,900 MiB/s	
	Sustained 64KiB Sequential Write	750 MiB/s	850 MiB/s	
	Sustained 4KiB Random Read	270,000 IOPS		
	Sustained 4KiB Random Write	47,000 IOPS		45,000 IOPS
Supply Voltage	Allowable Voltage	5 V ± 7% 12 V ± 7 %		
Power Consumption	3.2 W Typ.			

## > RELIABILITY

Model Number	PX05SRBxxx PX05SRBxxxY PX05SRQxxx PX05SRQxxxB
MTTF	2,000,000 hours
DWPD	1
Warranty	5 years

## > MECHANICAL SPECIFICATIONS

Model Number	PX05SRBxxx PX05SRBxxxY PX05SRQxxx PX05SRQxxxB
Height	15.0 mm + 0, - 0.5 mm
Width	69.85 ± 0.25 mm
Length	100.45 mm Max.
Weight	150 g Max.

## > ENVIRONMENTAL LIMITS

Item	PX05SRBxxx PX05SRBxxxY PX05SRQxxx PX05SRQxxxB
Temperature	Operating 0 °C to 55 °C
Humidity	Operating 5 % to 95 % R.H. (No condensation)
Vibration	Operating 21.27 m/s <sup>2</sup> { 2.17 Grms } ( 5 to 800 Hz )
Shock	Operating 9,800 m/s <sup>2</sup> { 1,000 G } ( 0.5 ms duration )

Product image may represent a design model.

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 =  $2^{30}$  = 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  $2^{10}$ , or 1,024 bytes, a mebibyte (MiB) means  $2^{20}$ , or 1,048,576 bytes, and a gibibyte (GiB) means  $2^{30}$ , or 1,073,741,824 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.

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.

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

IOPS: Input Output Per Second (or the number of I/O operations per second)

There are some models of Toshiba Storage Products which deliver various security functions as optional feature. For more information of security options, please contact your TOSHIBA sales representative