Intel® Solid-State Drive Data Center S3610 Series

Non-Volatile Memory Storage Solutions

PRODUCT BRIEF

Consistently Amazing

The Intel® Solid-State Drive Data Center Family for SATA expands with the Intel® SSD DC S3610 Series. The Intel SSD DC S3610 Series offers the next generation of data center SSDs optimized for mixed read-write performance, endurance and strong data protection.

Proven Data Center Endurance

In today's demanding data center environments, IT needs highly reliable, fast storage coupled with consistent performance. The Intel® SSD DC S3610 Series is designed to meet the needs of typical data center workloads with up to 3 full drives writes per day, delivering up to 10 times higher endurance than standard read-optimized data center SSDs.[1] The Intel SSD DC S3610 Series is the perfect choice for applications demanding a balance of read and write performance such as operational and analytical databases, virtualization, e-commerce and cloud infrastructures.

Stress-Free Data Protection

The Intel SSD DC S3610 Series protects data with full end-to-end data protection, 256-bit encryption Advanced Encryption Standard (AES) technology, sophisticated error protection schemes, and enhanced power loss and thermal monitoring features. The Intel SSD DC S3610 Series employs multiple safeguard mechanisms delivering peace of mind that data is safe, secure and available when needed.

Power-Efficient Performance

The Intel SSD DC S3610 Series accelerates data center performance with read-write throughput speeds up to 550/520[2] megabytes per second (MB/s) and 4K random read-write input/output operations per second (IOPs) up to 84,000/28,000[2]. Applications benefit from 55 µs typical latency with max read latencies[3] of 500 µs 99.9%[4] of the time. Combining performance with low typical active power (less than 6.8 watts[2,5]) the Intel SSD DC S3610 Series improves data center efficiency with superior quality of service and reduced energy costs.

Exceptional Quality and Reliability

Intel® SSDs are known industry wide for their quality and reliability. The Intel SSD DC S3610 Series is no exception. The Intel SSD DC S3610 Series is engineered to reduce downtime as a result of storage-related failures. Designed to meet an Annualized Failure Rate (AFR) of 0.44%, the Intel SSD DC S3610 Series significantly reduces Total Cost of Ownership (TCO)[6]. Held to the highest standards, the Intel SSD DC S3610 Series is validated in more than 5,000 unique tests to ensure performance over the life of the drive. The Intel SSD DC S3610 Series is fully supported with Intel's 5-year limited warranty and customer support.

Capacity and Form Factors[7]

The Intel SSD DC S3610 Series is available in a 2.5-inch form factor with capacities from 200GB to 1.6TB and in a 1.8-inch form factor with capacities from 200GB to 800GB.

Intel® Solid-State Drive Data Center S3610 Series

Technical Specifications[2]

Model Name	Intel® Solid-State Drive DC S3610 Series			
Capacity[7]	**2.5-inch –** 200GB, 400GB, 480GB, 800GB,1.2TB, 1.6TB			
	1.8-inch – 200GB, 400GB, 800GB			
NAND Flash Memory	20nm NAND Flash Memory Multi-Level Cell Compute-Quality Components with High Endurance Technology			
Sustained Sequential Reads / Writes				
Bandwidth[4]	**2.5-inch**		**1.8-inch**	
	200GB:	Up to 550 / 230 MB/s	200GB:	Up to 500 / 220 MB/s
	400GB:	Up to 550 / 400 MB/s	400GB:	Up to 500 / 370 MB/s
	480GB:	Up to 550 / 440 MB/s	800GB:	Up to 500 / 280 MB/s
	800GB:	Up to 540 / 520 MB/s		
	1.2TB:	Up to 500 / 500 MB/s		
	1.6TB:	Up to 540 / 500 MB/s		
4KB Reads / Writes				
Random I/O Operations per Second[3]	**2.5-inch**		**1.8-inch**	
	200GB:	Up to 84,000 / 12,000 IOPS	200GB:	Up to 70,000 / 11,000 IOPS
	400GB:	Up to 84,000 / 25,000 IOPS	400GB:	Up to 70,000 / 22,000 IOPS
	480GB:	Up to 84,000 / 28,000 IOPS	800GB:	Up to 70,000 / 17,000 IOPS
	800GB:	Up to 84,000 / 28,000 IOPS		
	1.2TB:	Up to 84,000 / 28,000 IOPS		
	1.6TB:	Up to 84,000 / 27,000 IOPS		
Interface	SATA 6Gb/s, compatible with SATA 3Gb/s			
Form Factor, Height and Weight	**2.5-inch**		**1.8-inch**	
	Up to 7mm / up to 96 grams		Up to 5mm / up to 96 grams	
Life Expectancy	2 million hours Mean Time Between Failures (MTBF)			
Lifetime Endurance[8]	Up to 3 Drive Writes per Day, Up to 10.7 Petabyte written			
Power Consumption[5]	Active:	Up to 6.8W Typical	Idle:	600mW Typical
Operating Temperature	0° C to 70° C			
RoHS Compliance	Meets the requirements of European Union (EU) RoHS Compliance Directives			
Product Health Monitoring	Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.) commands			
Product Ordering Information	To order, visit intel.com/ssd			

1. Based on the Intel® Solid-State Drive DC S3500 Series Product Specification.
2. Based on the Intel® Solid-State Drive DC S3610 Series Product Specification.
3. Device measured using IOMeter* with 4K Random Writes QD=32 across 100% span of the drive. Latency measured using write transfer size of 4KB (4,096 bytes) and queue depth set to 1.
4. Performance measured using IOMeter* with 128K (131,072 bytes) of transfer size with Queue Depth 32.
5. Based on 5 volt power supply, measured on highest capacity SSD, see product specification for specific SKU information.
6. J. Gold Associates White Paper, *Investing in Solid State Drive Offers Significant Cost Advantage*
7. All capacities and form factors will not be available at launch.
8. Based on JESD218 standard

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors.

Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

System Configuration for all performance testing: Intel® Core™ i7-3960x on Intel® DX79SI desktop motherboard, BIOS Version 0537 – SIX7910J.86A.0537.2012.0723.1217 8GB DDR3 LSI 9265-8i, FW 3.190.25-1776, Intel® SSD DC S3610 FW G2010110

For more complete information visit http://www.intel.com/performance
http://www.intel.com/performance/resources/benchmark_limitations.htm.

The products described in this document may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request. Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order. Copies of documents which have an order number and are referenced in this document, or other Intel literature, may be obtained by calling 1-800-548-4725, or by visiting Intel's Web site at www.intel.com.

*Other names and brands may be claimed as the property of others.

Printed in the USA 20150218 tlm 331856-002US