

PRODUCT BRIEF

Intel® Solid-State Drive 520 Series

Non-Volatile Memory Storage Solutions from Intel



Get Fast. Play Fierce.

Faster game and application loads, less lag, smoother visuals

Stay ahead of the competition when you level up to 6.0 gigabits per second (Gb/s) performance

Intel® Solid-State Drives (Intel® SSDs) continue to evolve with the Intel SSD 500 Family. Available in a wide range of capacities, the Intel® Solid-State Drive 520 Series offers built-in data protection features and delivers exceptional performance over hard drives.

New Level of Performance

Built with compute-quality Intel 25 nanometer (nm) NAND Flash Memory, the Intel SSD 520 Series accelerates PC performance where it matters most. With random read performance up to 50,000 input/output operations per second (IOPS)¹ and sequential read performance of up to 550 megabytes per second (MB/s)², your PC will blaze through the most demanding applications and will handle intense multi-tasking needs. Couple that read performance with random writes up to 80,000 IOPS³ and sequential writes of 520 MB/s² to unleash your applications. With the Intel SSD 520 Series, Intel continues to deliver solutions designed to satisfy the most demanding gamers, media creators and technology enthusiasts.⁴

Superior Data Protection Features

The new Intel SSD 520 Series offers the best security features of any Intel® Solid-State Drive to date and comes pre-configured with Advanced Encryption Standard (AES) 256 bit encryption capabilities. In the event of theft or loss of your computer, you have the peace of mind that your personal data is secured by an advanced encryption technology.

Additionally, the Intel SSD 520 Series contains “End to End Data Protection” ensuring integrity of stored data from the computer to the SSD and back.

Proven Reliability with Lower Operating Costs

With no moving parts, the Intel SSD 520 Series reduces your risk of data loss due to laptop bumps or drop, all while consuming less power than a traditional hard drive—so you can stay mobile longer. Now that your work is safe, use the world-class performance of the Intel SSD 520 Series to dominate your gaming competition or to reach new levels of creativity and productivity. The choice is yours!

Product Brief: Intel® Solid-State Drive 520 Series

Technical Specifications					
Model Name	Intel Solid-State Drive 520 Series				
Capacity	60 GB, 120 GB, 180 GB, 240 GB, 480 GB				
NAND Flash Memory	25nm Intel NAND Flash Memory Multi-Level Cell (MLC) Compute-Quality Components				
Bandwidth²	Sustained Sequential Reads up to		Sustained Sequential Writes up to		
	SATA 6Gb/s (SATA 3Gb/s)		SATA 6Gp/s (SATA 3Gb/s)		
			60 GB: 475 MB/s	(245 MB/s)	
			120 GB: 500 MB/s	(260 MB/s)	
	550 MB/s	(280 MB/s)	180 GB: 520 MB/s	(260 MB/s)	
			240 GB: 520 MB/s	(260 MB/s)	
		480 GB: 520 MB/s		(260 MB/s)	
Random I/O Operations per Second (IOPS)	Random 4 KB Reads up to ¹		Random 4 KB Writes up to ⁵		
	60 GB: 15,000 IOPS		60 GB:	23,000 IOPS	
	120 GB: 25,000 IOPS		120 GB:	40,000 IOPS	
	180 GB: 50,000 IOPS		180 GB:	60,000 IOPS	
	240 GB: 50,000 IOPS		240 GB:	60,000 IOPS	
	480 GB: 50,000 IOPS		480 GB:	42,000 IOPS	
Out-of-the-Box Write Performance (IOPS)³			60GB:	80,000 IOPS	
			120 GB:	80,000 IOPS	
			180 GB:	80,000 IOPS	
			240 GB:	80,000 IOPS	
			480 GB:	50,000 IOPS	
Interface	SATA 6.0 Gb/s, compatible with SATA 3.0Gb/s				
Form Factor and Height	Form Factor		Height		
	2.5 inch		7 mm	9.5 mm	
			120 GB, 180 GB, 240 GB	All capacities	
Life Expectancy	1.2 million hours Mean Time Between Failures (MTBF)				
Operating Temperature	0°C to 70°C				
RoHS Compliance	Meets the requirements of European Union (EU) RoHS Ecological Compliance Directives				
Product Health Monitoring and Data Migration	<ul style="list-style-type: none"> Intel® Data Migration Software at www.intel.com/go/ssdinstallation Intel® Solid-State Drive Toolbox with Intel® SSD Optimizer at www.intel.com/go/ssdtoolbox Self-Monitoring, Analysis and Reporting Technology (SMART) commands 				

¹ Performance varies by capacity.

² Performance measured using Iometer* with Queue Depth 32.

³ Random 4 KB write performance using an out-of-the-box SSD.

⁴ The Intel SSD 520 Series is currently not validated for data center usage.

⁵ Performance measured using Iometer^ with Queue Depth 32. Measurements are performed on 8GB of Logical Block Address (LBA) range on a full SSD.

Solid-State Computing Starts with Intel Inside® For more information, visit www.intel.com/go/ssd

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. UNLESS OTHERWISE AGREED IN WRITING BY INTEL, THE INTEL PRODUCTS ARE NOT DESIGNED NOR INTENDED FOR ANY APPLICATION IN WHICH THE FAILURE OF THE INTEL PRODUCT COULD CREATE A SITUATION WHERE PERSONAL INJURY OR DEATH MAY OCCUR.

Intel may make changes to specifications and product descriptions at any time, without notice. Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The information here is subject to change without notice. Do not finalize a design with this information.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, go to: 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.

Copyright © 2012 Intel Corporation. All rights reserved. Intel, the Intel logo, and Intel Inside are trademarks of Intel Corporation in the U.S. and other countries.

Printed in USA 2/2012/JC/PDF

Please Recycle

326267-001US