



Look Inside.™

# Intel® Solid-State Drive 750 Series Non-Volatile Memory Storage Solutions

## PRODUCT BRIEF

### Performance Unleashed

#### PCIe 3.0 X4 NVMe Express™ SSD

The Intel® Solid State Drive (SSD) 750 Series is Intel's latest SSD for the high performance client and workstation storage market. Intel SSD 750 Series delivers the future of storage today with Intel's first PCIe® based consumer SSD, combining four lanes of PCIe 3.0 with state-of-the-art NVMe Express™ (NVMe™) interface for truly amazing performance.



#### Uncompromised Performance

*Don't settle for second best.*

Maximize your computing experience with the Intel® Solid-State Drive 750 Series. By combining four lanes of PCIe 3.0 with state-of-the-art NVMe interface, the 750 Series delivers exceptional throughput performance and latency in a client PC SSD. The 750 Series is truly an industry leader; utilizing NVMe Express™ allows the 750 Series to shed the burden of legacy AHCI commands. The Intel SSD 750 Series Add-In-Card (AIC) and 2.5-inch form factors enable performance not currently possible in form factors restricted by size or power.

#### NVM Express™

*Industry Leading Storage Interface†*

Introducing Intel's first client-focused NVMe SSD. NVMe Express (NVMe) is a standard specification architected from the ground up for Non-Volatile Memory (NVM). NVMe significantly improves both random and sequential performance over SATA-based drives‡ by reducing latency, enabling high levels of parallelism, and streamlining the storage command set. NVMe provides a standards-based approach enabling broad ecosystem adoption for PCIe SSD interoperability.

Intel has worked closely with industry ecosystem partners to bring NVMe to the PC Client and Workstation market with a bootable, easy to use, plug-n-play solution.

The uncompromising performance of the 750 Series enables you to design and build richer content with larger data sets, textures or assets.

The 750 Series offers increased efficiency for engineering workloads: Computer Aided Drafting and Design (CADD), Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), and Simulation.

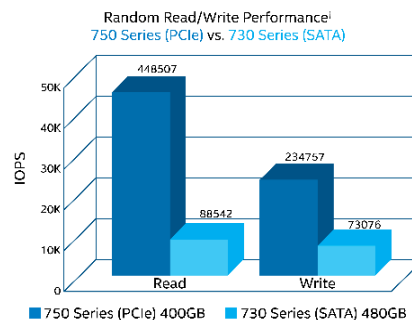
#### Add-in-Card and 2.5-inch SFF

*Two Form Factors for Flexibility and Ease of Integration.*

With both Add-in-Card and 2.5-inch form factors, the 750 Series eases migration from SATA to PCIe 3.0 without power or thermal limitations on performance. This allows the SSD to deliver the ultimate in performance in a variety of system form factors and configurations.

**Add-in-Card.** The Intel SSD 750 Series Add-in-Card (AIC) offers a dynamic solution for current and future systems with an accessible PCIe 3.0 slot.

**U.2 2.5-inch Small Form Factor.** The Intel SSD 750 Series U.2 2.5-inch provides a cabled solution where an accessible PCIe 3.0 slot is not available and the motherboard has been provisioned with an U.2 connector (formerly SFF-8643). This solution is attractive for small form factor and multi-GPU systems where space is a premium. This flexibility also provides a viable direct attach solution for small form designs with an U.2 connector (formerly SFF-8639) on board.



<sup>†</sup>Performance measured by Intel using IOMeter 1.1.0 with queue depth 32. Measurements are performed on 8 GB of Logical Block Address (LBA) range on a full SSD. System configuration: Intel® Core i7-5960X processor, Intel® X99 chipset, 16GB DDR4 2133.

For additional performance information go to:  
[www.intel.com/content/www/us/en/solid-state-drives/solid-state-drives-750-series.html](http://www.intel.com/content/www/us/en/solid-state-drives/solid-state-drives-750-series.html)

### Product Spotlight

- >4X Performance vs. SATA based SSDs<sup>†</sup>
- Excellent Performance per Dollar
- Industry Leading NVMe Express™ Interface
- Exceptional Workload Efficiency
- Outstanding Immersive User Experience
- Faster Game Load Times
- Ultra High Definition (4K) Video Creation

Solid-State Computing Starts with Intel Inside®. For more information, visit [www.intel.com/ssd](http://www.intel.com/ssd)

# Intel® Solid-State Drive 750 Series

Technical Specifications <sup>1</sup>								
Model Name	Intel® Solid-State Drive 750 Series							
Capacities	Half-Height Half-Length (HHHL) Add-in-Card (AIC): 400GB, 800GB, and 1.2TB 2.5-inch Small Form Factor U.2: 400GB, 800GB, and 1.2TB							
NAND Flash Memory	20nm Intel® NAND Flash Memory Multi-Level Cell (MLC)							
Sustained Sequential Reads / Writes								
Bandwidth <sup>2</sup>	<b>Add-in Card</b>	<b>2.5-inch (U.2)</b>						
	400GB: up to 2200 / 900 MB/s	400GB: up to 2200 / 900 MB/s						
	800GB: up to 2100 / 800 MB/s	800GB: up to 2100 / 800 MB/s						
	1.2TB: up to 2500 / 1200 MB/s	1.2TB: up to 2500 / 1200 MB/s						
Read /Write Latency	20 µs / 20 µs							
4KB Reads / Writes								
Random I/O Operations per Second <sup>2</sup>	<b>Add-in Card</b>	<b>2.5-inch (U.2)</b>						
	400GB: up to 430,000 / 230,000 IOPs	400GB: up to 430,000 / 230,000 IOPs						
	800GB: up to 420,000 / 210,000 IOPs	800GB: up to 420,000 / 210,000 IOPs						
	1.2TB: up to 460,000 / 290,000 IOPs	1.2TB: up to 460,000 / 290,000 IOPs						
Interface	PCIe 3.0 X4							
Form Factor, Height and Weight	<b>Add-in Card</b> 68.9mm / 18.74mm / 168mm up to 195 grams	<b>2.5-inch (U.2)</b> 15mm / 70mm / 101mm / up to 125 grams						
Life Expectancy <sup>3</sup>	1.2million hours Mean Time Between Failures (MTBF)							
Lifetime Endurance <sup>3</sup>	70GB Writes per Day							
Power Consumption Typical								
		400GB	800GB	1.2TB		400GB	800GB	1.2TB
	Active Read:	9W	9W	10W	Active Read:	9W	9W	10W
	Active Write:	12W	15W	22W	Active Write:	12W	15W	22W
	Idle:	4W	4W	4W	Idle:	4W	4W	4W
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 <a href="http://intel.com/ssd">intel.com/ssd</a>							
Software Tools	Intel® Solid-State Drive Toolbox at <a href="http://intel.com/ssdtoolbox">intel.com/ssdtoolbox</a>							
	Intel® Data Migration Software at <a href="http://intel.com/ssdinstallation">intel.com/ssdinstallation</a>							

1. Based on Intel® SSD 750 Series Product Specification: <http://www.intel.com/content/www/us/en/solid-state-drives/ssd-750-spec.html>
2. Performance measured by Intel using IOMeter\* 1.1.0 with queue depth 32. Measurements are performed on 8 GB of Logical Block Address (LBA) range on a full SSD.
3. All documented endurance test results are obtained in compliance with JESD218 Standards. See [www.jedec.org](http://www.jedec.org) for detailed definitions of JESD218 Standards.

Tests document performance of components on a particular test, in specific systems. Differences in hardware, software, or configuration will affect actual performance. Consult other sources of information to evaluate performance as you consider your purchase.

**Test and System Configuration:** Processor: Intel Core i7-4790K, Speed: 4.0 GHz, Chipset: Intel Z97, Motherboard: ASUS z97-Deluxe, DRAM capacity: 4GB, DRAM Speed: DDR3 2133 MHz, OS: Windows\* 8.1.

All documented endurance test results are obtained in compliance with JESD218 Standards. See [www.jedec.org](http://www.jedec.org) for detailed definitions of JESD218 Standards.

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](http://www.intel.com).

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

Copyright © 2015 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 the USA 150730, tlm

332174-002US

Solid-State Computing Starts with Intel Inside®. For more information, visit [www.intel.com/ssd](http://www.intel.com/ssd)