

## PRODUCT BRIEF

### Intel® Solid-State Drive 310 Series

NAND Storage Solutions from Intel



# Intel® Solid-State Drive 310 Series

34nm Intel® NAND Flash Memory available in an m-SATA form factor



## Compact Size, Big Performance

Great things come in small packages! Based on 34nm Intel NAND Flash Memory, the Intel® Solid-State Drive 310 Series offers similar performance to a 2.5" Intel Solid-State Drive (SSD), but in an eighth of the size.

The compact m-SATA footprint enables dual-drive storage for traditional embedded platforms, as well as a single drive option for innovative, low-power handheld devices.

## Lightweight for On-the-Go Computing

The m-SATA Intel SSD 310 Series enables a flexible, scalable and accelerated-storage solution in a form factor that is up to 8 times smaller than a 2.5" hard-disk drive, and weighs 10 times less. Supporting SATA signals over a PCI Express (PCIe) mini-connector, the Intel SSD 310 Series provides compact storage acceleration for single-drive systems like netbooks, tablets and other hand-held devices.

## High Performance Dual-Drive Option

The small footprint also augments hard-disk drive performance in dual-drive systems, such as all-in-ones, notebooks and small-form-factor (SFF) desktops. The m-SATA form factor connects easily to an existing SATA port on a PC—enabling the SSD to perform as a boot drive, quick access to frequently-used applications or storage.

## SSD Ruggedness

With no moving parts, Intel Solid-State Drives offer a revolutionary breakthrough that delivers a giant leap in storage performance. Designed to satisfy the most demanding gamers, media creators and technology enthusiasts, the Intel SSD 310 Series brings a high level of performance and reliability to a small form factor by utilizing the powerful 10-channel controller architecture of the Intel® X25-M SATA SSD series.

## Capacities to Fit Your Needs

Whether you chose the 40GB or 80GB capacity, the Intel SSD 310 Series provides the storage performance that fits your innovative designs. Make your system come alive with an Intel SSD 310 Series.



## Intel® Solid-State Drive 310 Series

### Technical Specifications

Model Name	Intel Solid-State Drive 310 Series
Capacity	40GB and 80GB
NAND Flash Components	34nm Intel NAND Flash Memory Multi-Level Cell Components
Bandwidth	Sustained Sequential Reads <ul style="list-style-type: none"><li>Up to 170 MB/s (40GB)</li><li>Up to 200 MB/s (80GB)</li></ul> Sustained Sequential Writes <ul style="list-style-type: none"><li>Up to 35 MB/s (40GB)</li><li>Up to 70 MB/s (80GB)</li></ul>
Read Latency	65 microseconds (40GB and 80GB)
Write Latency	110 microseconds (40GB) 75 microseconds (80GB)
Random I/O Operations per Second (IOPS) <sup>1</sup>	Random 4KB Reads <ul style="list-style-type: none"><li>Up to 25 K IOPS (40GB)</li><li>Up to 35 K IOPS (80GB)</li></ul> Random 4KB Writes <ul style="list-style-type: none"><li>Up to 2.5 K IOPS (40GB)</li><li>Up to 6.6 K IOPS (80GB)</li></ul>
Interface	Compatible with SATA 1.5 Gb/s and 3 Gb/s
Form Factor, Height and Weight	Full-sized m-SATA form factor (50.80 mm x 29.85 mm) Less than 4.85 mm thick Weighs less than 10 grams
Compatibility	SATA revision 2.6 compliant. Compatible with SATA 3.0 Gb/s with Native Command Queuing and SATA 1.5 Gb/s interface rates.
Life Expectancy	1.2 million hours Mean Time Before Failure (MTBF)
Power Consumption	Active: 150 mW Typical <sup>2</sup> Idle: 75 mW Typical
Operating Temperature	0°C to 70°C
RoHS Compliance	Meets the requirements of European Union (EU) RoHS Compliance Directives and the Halogen Free <sup>3</sup> Compliance Directives
Product Health Monitoring	<ul style="list-style-type: none"><li>Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.) commands</li><li>Intel® Solid-State Drive Toolbox</li></ul>

<sup>1</sup> Measurement performed on 8GB span.

<sup>2</sup> Active power measured during execution of BAPCo MobileMark\* 2007 with Device Initiated Power Management (DIPM) enabled.

<sup>3</sup> Halogen-free products: Applies only to halogenated flame retardants and PVC in the products. Halogens are below 900ppm bromine and 900ppm chlorine.

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

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 © 2011 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 1/2011/JC/PDF

Please Recycle

324696-001US