

Technical Specifications

Samsung SSD 840 PRO Series		
Usage Application(s)	Client PCs, Enterprise Computing ¹	
Capacity	128GB, 256GB, 512GB	
Dimensions (L x W x H)	100 x 69.85 x 6.8 (mm)	
Interface	SATA 6Gb/s (Compatible with SATA 3Gb/s and SATA 1.5Gb/s)	
Form Factor	2.5-inch	
NAND Flash Memory	2x nm Samsung Toggle DDR 2.0 NAND Flash Memory (400Mbps)	
DRAM Cache Memory	256MB (128GB model) or 512MB(256GB & 512GB models) LPDDR2	
Performance*	4KB Random Read (QD32):	Max. 100,000 IOPS (256GB/512GB) Max. 97,000 IOPS (128GB)
	4KB Random Write (QD32):	Max. 90,000 IOPS (128GB/256GB/512GB)
	4KB Random Read (QD1):	Max. 9,900 IOPS (256GB/512GB) Max. 9,800 IOPS (128GB)
	4KB Random Write (QD1):	Max. 31,000 IOPS (128GB/256GB/512GB)
	Sequential Read:	Max. 540 MB/s (256GB/512GB) Max. 530 MB/s (128GB)
	Sequential Write:	Max. 520 MB/s (256GB/512GB) Max. 390 MB/s (128GB)
	TRIM Support	Yes (Requires OS Support)
Garbage Collection	Yes	
S.M.A.R.T	Yes	
Encryption	AES 256-bit Full Disk Encryption (FDE)	
Weight	Max. 54g (128GB/256GB/512GB)	
Reliability	MTBF: 1.5 million hours	
Power Consumption	Average : 0.069W** (Typical) Idle : 0.054W (Typical, DIPM ON), 0.349W (Typical, DIPM OFF)	
Temperature	Operating:	0°C to 70°C
	Non-Operating:	-55°C to 95°C
Humidity	5% to 95%, non-condensing	
Vibration	Operating:	Random: 2.17Grms (7~800Hz)
	Non-Operating:	Random: 3.08Grms (7~800Hz)
Shock	1500G & 0.5ms (Half sine)	
Warranty	5 years limited (client PC use only)***	

System Configuration : Intel Core i7-3770 @3.4GHz, 4GB DDR3 (2GBx2) 1333Mbps; Asus motherboard with Intel 7 Series Z77 Chipset, Windows 7 Ultimate x64 SP1; IRST 11.2, MS performance guide pre-condition.

¹For enterprise PC usage(e.g. servers), a minimum of 6.7% over-provisioning (OP) is required and can be set through Magician.

* Sequential performance measurements based on CrystalDiskMark v3.0.1. Random performance measurements based on Iometer 2010. Performance may vary based on SSD's firmware version, system hardware & configuration.

** Power consumption measured with MobileMark 2007 in Windows 7. Values calculated using laptop computer and represent system-level power consumption.

*** For enterprise applications, 5 years limited warranty assumes a maximum average workload of 40GB/day (calculated based on host writes and on the industry standard of 3-month data retention).

Workloads in excess of 40GB/day are not covered under warranty.

Product Lineup

Density	Model Name	Box Contents	Model Code
128 GB	MZ-7PD128	Drive only	MZ-7PD128BW
		Bulk	MZ-7PD128Z
256 GB	MZ-7PD256	Drive only	MZ-7PD256BW
		Bulk	MZ-7PD256Z
512 GB	MZ-7PD512	Drive only	MZ-7PD512BW
		Bulk	MZ-7PD512Z

Contents

Contents	Drive Only	Bulk
Samsung software & manual CD	✓	N/A
SSD Installation Guide (Printed)	✓	N/A

Package-Set



The Samsung SSD 840 PRO.
Performance at a different level.

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For more information, please visit www.samsung.com/ssd.

To download the latest software & manuals, please visit www.samsung.com/samsungssd

Features and specifications are subject to change without prior notification



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Samsung SSD 840 PRO

An essential element for professional computing

As a perfectionist in search of the best performance and with a desire to be among the best in your field, you deserve Samsung's SSD 840 PRO. The 840 PRO is the fastest and most-reliable SSD on the market - like nothing you've seen before. It assures a top-notch user experience, which guarantees better output on your behalf. The 840 PRO is the best choice for professionals looking to supercharge their workflow.



Performance at a different level

The Samsung SSD 840 PRO is a high-performance SSD designed for power users. Capable of delivering up to 100,000 IOPS, the 840 PRO offers the ultimate performance for power computing when it matters most. Sophisticated performance enhancing features deliver consistent speed for demanding applications under heavy workloads.



Industry-leading reliability

From the world's leading storage engineers at the #1 maker of SSD components, Samsung's SSD 840 Series delivers rock-solid reliability and sustained high performance over time and under heavy use. Additionally, the 840 PRO carries a generous 5-year limited warranty.



A True End-to-End, Integrated Solution

Samsung SSDs are designed completely in-house. To arrive at the perfect solution, Samsung builds all of the main SSD components itself. The result is enhanced performance with Toggle DDR NAND flash, lower power consumption with LPDDR2 cache memory, and better energy efficiency with the 3-core MDX controller.



Ultra Low Power Consumption for Longer Battery Life

Samsung has made major leaps forward in power efficiency with the 840 Series. It boasts the lowest idle power consumption of any SSD*, an extremely important achievement considering that SSDs spend a vast majority of their time sitting idle (a positive side-effect of their extremely fast processing speeds). In fact, Samsung's new MDX controller consumes only 40mwatt of power during idle mode - half that of its predecessor and up to 97% less than other SSD controllers. Further improvements come from the use of LPDDR2 cache memory, which offers higher performance while consuming 30% less power when active and 93% less power when idle than regular DDR2 or DDR3 memory. All of this results in an improvement of up to 30 minutes in battery life over the 830 Series, letting you get more out of your mobile experience.

	MCX (DDR2)	MDX (LPDDR2)
Power use	1.8V	1.2V
ID06 (Self refresh power)	14.4mW	1mW

*MobileMark2007 / CPU: Intel core-i5-2410M CPU@2.3GHz / Chipset: Intel QM67 PCH (Integrated Intel GFX) / Memory: 4GB 1067MHz DDR3

Keep your data safe with Self-Encrypting Drive (SED) Technology

Simply enable an HDD password via your computer's BIOS, and Samsung's SSD 840 applies data encryption automatically. You can re-purpose your drive or dispose of your data simply by running a Secure Erase through Samsung's Magician software.



“ Samsung 840 PRO: **The Makings Of A New King...** This makes the 840 PRO the fastest, most efficient SSD we've seen to date. ”
-Tom's Hardware-

“ Samsung has a proven track record in terms of reliability and quality. ”
-Hardware.info-

“ After the already impressive SSD 830 series, Samsung's SSD 840 PRO succeeds once again in delivering a very good, all around compelling product which thoroughly deserves our Top-Product-Award. ”
-PC games Hardware-

Samsung SSD 840 PRO Media Review



“ The performance and power characteristics of Samsung's SSD 840 PRO are as close to perfect as we've seen from any drive this generation. ”
-AnandTech-

“ Samsung's new flagship is laying great hopes of being able to directly build on the success of its predecessor. ”
-HardwareLuxe-