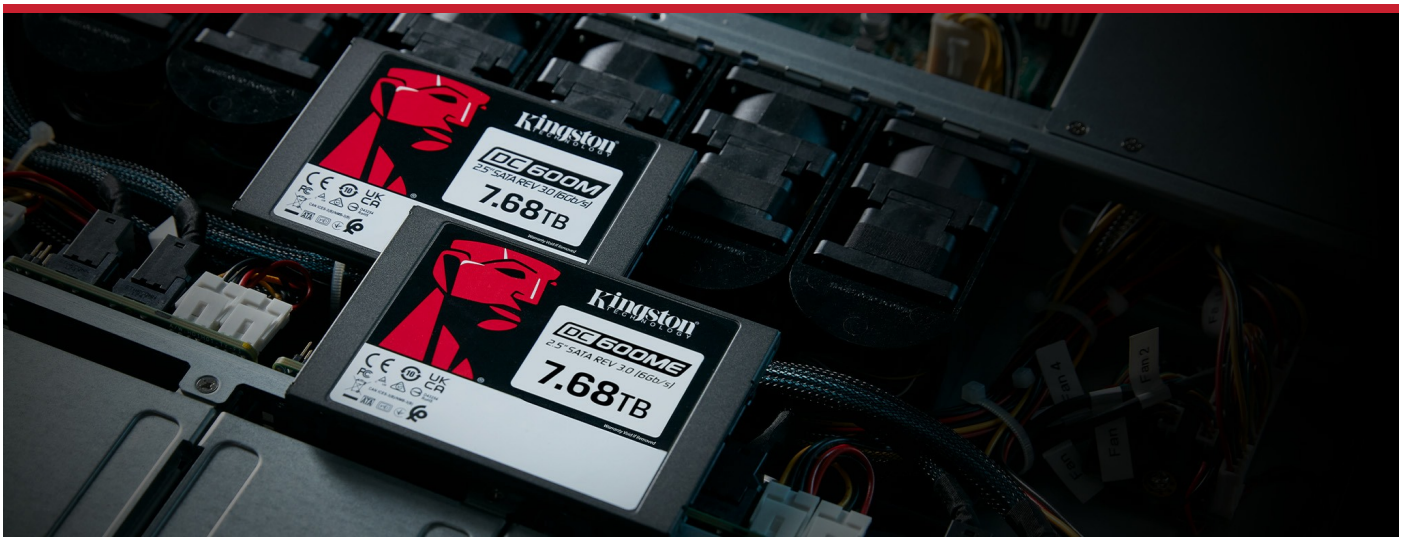

DC600M Series 2.5” SATA Enterprise SSD

6Gbps SATA 3.0 storage for mixed-use server workloads

Kingston’s DC600M and DC600ME SSDs are fourth-generation data center SATA 3.0, 6Gbps SSDs utilising 3D TLC NAND intended for “mixed use” server workloads. Both are well suited for a wide variety of server applications and include on-board power loss protection via hold-up capacitors. DC600M and DC600ME are designed to protect data against unexpected power failure and to ensure the drive will successfully reinitialise on the next power-up of the system. Designed to deliver low latency and IO consistency for system integrators, hyperscale data centers and cloud service providers.

DC600ME features AES 256-bit encryption and supports TCG OPAL 2.0 security standards.

Capacities available from 480GB–7.68TB[1] to meet your data storage requirements.

- Designed for data center environments
- Hardware-based power loss protection
- Latency and IOPS consistency
- AES 256-bit encryption with DC600ME
- Capacities of up to 7.68TB[1]

Key Features

- Designed for data center environments

  Optimised to meet the high demands of server RAID applications with low latency and IO consistency as the key design criteria.

- Hardware-based PLP

  Power loss capacitors to protect user data against unexpected power loss and enhance performance.

- Delivers excellent quality of service (QoS)[2]

  Optimised performance predictability to meet service-level agreements (SLAs).

- AES 256-bit encryption with DC600ME

  Protect sensitive data with support for AES 256-bit hardware-based encryption and TCG Opal 2.0 security standards with DC600ME.

- Capacities of up to 7.68TB

  Upgrade and manage storage with capacities of up to 7.68TB.[1]

Specifications

DC600M

Form factor	2.5 inch
Interface	SATA Rev. 3.0 (6Gb/s) – with backwards compatibility to SATA Rev. 2.0 (3Gb/s)
Capacities[1]	480GB, 960GB, 1.92TB, 3.84TB, 7.68TB
NAND	3D TLC
DRAM Cache	Yes

Sequential read/write	480GB – 560MBs/470MBs 960GB – 560MBs/530MBs 1.92TB – 560MBs/530MBs 3.84TB – 560MBs/530MBs 7.68TB – 560MBs/530MBs
Steady-state 4k random read/write	480GB – 94,000/41,000 IOPS 960GB – 94,000/65,000 IOPS 1.92TB – 94,000/78,000 IOPS 3.84TB – 94,000/59,000 IOPS 7.68TB – 94,000/34,000 IOPS
Quality of service (latency)[3],[4],[5](99.999)	Read/Write 480GB – 180/110 uSec 960GB – 3.84TB – 200/300 uSec 7.68TB – 240/170 uSec
Typical latency - read/write	<200 µs / <30 us[3],[4],[5]
Hot-plug capable	Static and dynamic wear levelling
Enterprise SMART tools	Reliability tracking, usage statistics, life remaining, wear levelling, temperature
Hardware-based power loss protection	Yes
Endurance (TBW) [6]	480GB – 876TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 960GB – 1752TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 1.92TB – 3504TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 3.84TB – 7008TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 7.68TB – 14016TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)
Power consumption	Idle: 1.30W Average: 1.45W Max read: 1.6W Max write: 3.6W

Storage temperature	-40℃ ~ 85℃
Operating temperature	0℃ ~ 70℃
Dimensions	69.9mm x 100mm x 7mm
Weight	92.34g
Vibration operating	2.17G Peak (7–800Hz)
Vibration non-operating	20G peak (10–2000Hz)
MTBF	2 million hours
UBER	≤10 -17
Warranty/support	Limited 5-year warranty with free technical support[7]

DC600ME

Form factor	2.5 inch
Interface	SATA Rev. 3.0 (6Gb/s) – with backwards compatibility to SATA Rev. 2.0 (3Gb/s)
Capacities[1]	480GB, 960GB, 1.92TB, 3.84TB, 7.68TB
NAND	3D TLC
DRAM Cache	Yes

Sequential read/write	480GB – 560MBs/470MBs 960GB – 560MBs/530MBs 1.92TB – 560MBs/530MBs 3.84TB – 560MBs/530MBs 7.68TB – 560MBs/530MBs
Steady-state 4k random read/write	480GB – 94,000/41,000 IOPS 960GB – 94,000/65,000 IOPS 1.92TB – 94,000/78,000 IOPS 3.84TB – 94,000/59,000 IOPS 7.68TB – 94,000/34,000 IOPS
Quality of service (latency)[3],[4],[5](99.999)	Read/Write 480GB – 500/130 uSec 960GB - 200/400 uSec 1.92TB – 450/210 uSec 3.84TB - 410/500 uSec 7.68TB – 200/100 uSec
Typical latency - read/write	<130 µs / <70 us[3],[4],[5]
Hot-plug capable	Static and dynamic wear levelling
Enterprise SMART tools	Reliability tracking, usage statistics, life remaining, wear levelling, temperature
Hardware-based power loss protection	Yes
Endurance (TBW) [6]	480GB – 876TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 960GB – 1752TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 1.92TB – 3504TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 3.84TB – 7008TBW, 1 DWPD (5 years), 1.66 DWPD (3 years) 7.68TB – 14016TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

Power consumption	Idle: 1.30W Average: 1.45W Max read: 1.6W Max write: 3.6W
Storage temperature	-40℃ ~ 85℃
Operating temperature	0℃ ~ 70℃
Dimensions	69.9mm x 100mm x 7mm
Weight	92.34g
Vibration operating	2.17G Peak (7–800Hz)
Vibration non-operating	20G peak (10–2000Hz)
MTBF	2 million hours
UBER	≤10 -17
Warranty/support	Limited 5-year warranty with free technical support[7]

Part Numbers

SEDC600M

SEDC600M/480G
SEDC600M/960G

SEDC600M/1920G
SEDC600M/3840G
SEDC600M/7680G
SEDC600ME/480G
SEDC600ME/960G
SEDC600ME/1920G
SEDC600ME/3840G
SEDC600ME/7680G

Product Image



1. Some of the listed capacity on a Flash storage device is used for formatting and other functions and thus is not available for data storage. As such, the actual available capacity for data storage is less than what is listed on the products. For more information, go to Kingston's Flash Memory Guide.
2. Quality of service (QoS) of an SSD refers to the consistency and predictability of latency (response time) and IOPS (IOs per second) performance while servicing a read/write workload. QoS metrics demonstrate that, given a worst-case workload tested over a period of time, an SSD's latency and IOPS profiles stay within a specified range without having unexpected outliers that cause a sudden drop in application performance.
3. Measurement taken once the workload has reached steady state but including all background activities required for normal operation and data reliability.
4. Based on 1920GB capacity.
5. Workload based on FIO, random aligned 4KB QD=1 workload. Quality of service is measured as the time taken for 99.999 percentile of commands to finish the round trip from host to drive and to host. Typical latency is measured as the time taken for 99.9 percentile of commands to finish the round trip from host to drive and to host.
6. Total Bytes Written (TBW) and Drives Writes Per Day (DWPD) derived from the JEDEC Enterprise Workload (JESD219A).
7. Five-year conditional SSD warranty based on which of the following events occurs first: (i) five (5) years from the date of purchase by the original end user customer; (ii) when the usage of a SATA SSD as measured by Kingston's implementation of the SMART attribute 231, labelled as "SSD Wear Indicator", reaches a normalised value of one (1) as indicated by Kingston's SSD Manager ("KSM").

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