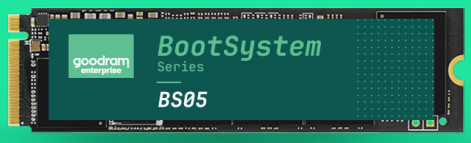
goodram enterprise

ENTERPRISE BootSystem

High-Quality SATA Boot Drive for Legacy Systems



Sequential read

up to 530 MB/s

Sequential write

up to 500 MB/s

Random read

up to 98 000 IOPS

Random write

up to 30 000 IOPS

Interface

SATA III

Capacity

up to 960 GB

Form factor

2.5", M.2 2280

DWPD

1

Product features

- AES-XTS 256-bit Encryption
- TCG Opal 2.0 Support
- End-to-End Data Path Protection
- Power Loss Protection (PLP)

Solutions - BS05M

Form factor M.2 2280			
Capacity[1]	240 GB	480 GB	960 GB
Interface	SATA III	SATA III	SATA III
NAND Flash	3D TLC	3D TLC	3D TLC
Performance[2,3,4,5]			
Sequential read to (MB/s)	530	530	530
Sequential write to (MB/s)	290	480	500
4K random read to (IOPS)	60 000	90 000	98 000
4K random write to (IOPS)	10 000	15 000	30 000
Read latency (Typ.,µs)	120	120	120
Write latency (Typ.,µs)	80	50	30
Power consumption[6]			
Active (W)	2.3	2.8	2.8
Idle (W)	1.1	1.3	1.3
Endurance/Reliability			
DWPD[7]	1	1	1
TBW[8]	408 TB	815 TB	1.6 PB
UBER[9]	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read
MTBF (hours)[10]	2 000 000	2 000 000	2 000 000
Limited warranty (years)[11]	5	5	5
Temperature			
Operating temp. (°C)	0 – 70	0 – 70	0 – 70
Non-operating temp. (°C)	-40 – 85	-40 – 85	-40 – 85
Physical dimension			
Length (mm)	80.00	80.00	80.00
Width (mm)	22.00	22.00	22.00
Height (mm)	3.50	3.50	3.50
Weight (g)	8.00	9.00	9.00

* A detailed explanation of symbols and markings is provided on the final page.

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Solutions - BS05M

Form factor 2.5”			
Capacity[1]	240 GB	480 GB	960 GB
Interface	SATA III	SATA III	SATA III
NAND Flash	3D TLC	3D TLC	3D TLC
Performance[2,3,4,5]			
Sequential read to (MB/s)	530	530	530
Sequential write to (MB/s)	290	480	500
4K random read to (IOPS)	60 000	90 000	98 000
4K random write to (IOPS)	10 000	15 000	30 000
Read latency (Typ.,µs)	120	120	120
Write latency (Typ.,µs)	80	50	30
Power consumption[6]			
Active (W)	2.2	2.7	2.7
Idle (W)	1.1	1.1	1.2
Endurance/Reliability			
DWPD[7]	1	1	1
TBW[8]	408 TB	815 TB	1.6 PB
UBER[9]	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read	< 1 sector per 10^{17} bits read
MTBF (hours)[10]	2 000 000	2 000 000	2 000 000
Limited warranty (years)[11]	5	5	5
Temperature			
Operating temp. (°C)	0 – 70	0 – 70	0 – 70
Non-operating temp. (°C)	-40 – 85	-40 – 85	-40 – 85
Physical dimension			
Length (mm)	100.00	100.00	100.00
Width (mm)	69.85	69.85	69.85
Height (mm)	7.00	7.00	7.00
Weight (g)	24.00	25.00	25.00

* A detailed explanation of symbols and markings is provided on the final page.

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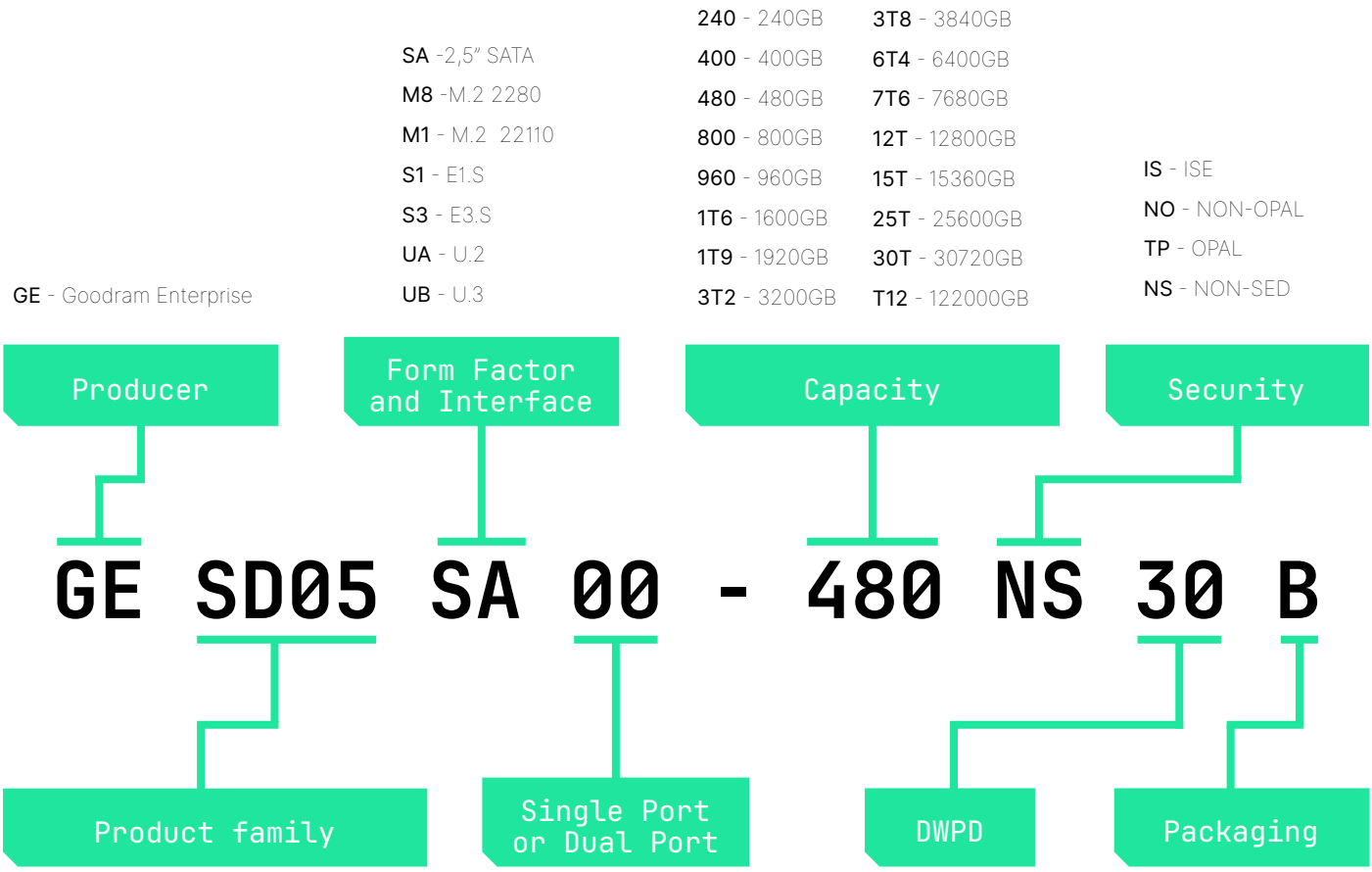
Decoder P/N



US10 - UltraSpeed Series PCIe Gen4×4
US20 - UltraSpeed Series PCIe Gen5×4
DC10 - DataCore Series PCIe Gen4×4
DC20 - DataCore Series PCIe Gen5×4
DC25 - DataCore Series PCIe Gen5×4
BS10 - BootSystem Series PCIe Gen4×4
BS05 - BootSystem Series SATA III
SD05 - SATADrive Series SATA III

SP - Single Port
DP - Dual Port
00 - None

03 - 0,3
04 - 0,4
05 - 0,5
10 - 1
30 - 3

B - GOODRAM BULK

Legend

(1) 1 TB = 10^{12} bytes.

(2) Sequential Performance is based on FIO on Linux, 128 K, with QD=32, 1 worker.

(3) Random Performance is based on FIO on Linux, 4 K data size, QD=32, 1 worker.

(4) Latency is measured with random workloads based on FIO on Linux, 4 KB data size, QD=1, 1 worker.

(5) Sequential performance is based on FIO (Flexible I/O Tester - an open source tool used to measure the performance of input/output (I/O) operations for disk drives and storage systems under various test scenarios) on Linux, 128 K, with QD=32, 1 worker.

(6) Power consumption (Typical) is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).

(7) The results of DWPD are obtained in compliance with JESD219A Standards.

(8) 1 PB = 1000 TB, 1 TB = 10^{12} bytes.

(9) UBER (Uncorrectable Bit Error Rate) – a measure of data storage reliability, indicating the number of uncorrectable bit errors per amount of data read. This value shows how often errors may occur that cannot be corrected using internal ECC (Error Correction Code) mechanisms.

(10) Please note that a lower MTBF should be expected for higher capacity drives, and we apply the lowest MTBF for all capacities.

(11) We warrant that each Product manufactured and delivered by Wilk Elektronik SA will comply with the specifications for five (5) years from the date of delivery or until the total number of stored terabytes specified in the S.M.A.R.T. attribute is exceeded, whichever occurs first.

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