



Solid State Drives

HG2 Series

Product Brief

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1. SCOPE

This document describes the specifications of the following model

1.1 2.5inch Case Type

Product Number	Capacity
THNS064GG2BB	64 GB
THNS128GG4BB	128 GB
THNS256GG8BB	256 GB
THNS512GG8BB	512 GB

1.2 1.8inch case Type

Product Number	Capacity
THNS064GG2BA	64 GB
THNS128GG4BA	128 GB
THNS256GG8BA	256 GB

1.3 1.8inch case-less Type

Product Number	Capacity
THNS064GG2BN	64 GB
THNS128GG4BN	128 GB
THNS256GG8BN	256 GB

2. GENERAL DESCRIPTION

The drive features an ATA-8 and Serial ATA revision 2.6 interface embedded controller that requires a simplified adapter board for interfacing to a Serial ATA or Serial ATA compatible bus. The drive is distinctive for its small and light body with 9.5 mm height and 66 grams (typ.) of weight.

The drive has no mechanical moving parts.

The drive is a memory storage device using NAND Flash Memories with high performance and reliability.

3. KEY FEATURES

- Fast access and fast transfer rate
 - Interface speed up to 3 gigabits per second and maximum memory transfer 220 megabytes per second in read, 200 megabytes per second in write.
 - Read cache and write cache enhancing system throughput.
- Intelligent Interface
 - ATA-8 and Serial ATA revision 2.6 interface specifications supported.
 - Translation mode which enables any drive configuration.
 - Support 28 bit LBA (Logical Block Address) mode commands and 48 bit LBA mode commands.
 - Multi word DMA, Ultra-DMA modes and Advanced PIO mode settings / commands supported.
- Data integrity
 - Automatic retries and corrections for read errors.
- High reliability
 - Shock (operating/non-operating) up to 1500G.
- Low power consumption
 - Low power consumption by Adaptive Power Mode.
 - Low power consumption by Serial ATA Device Initiated Power Management.

4. BASIC SPECIFICATION

Product Number	THNS064GG2BB THNS064GG2BA THNS064GG2BN	THNS128GG4BB THNS128GG4BA THNS128GG4BN	THNS256GG8BB THNS256GG8BA THNS256GG8BN	THNS512GG8BB
Formatted Capacity (gigabytes)	64	128	256	512
Total Number of User Addressable Sectors in LBA Mode	125,045,424	250,069,680	500,118,192	1,000,215,216

5. PERFORMANCE

Host Transfer rate	300 Mbytes / sec
Data Read (Max)	230 Mbytes / sec
Data Write (Max)	180 Mbytes / sec

6. POWER REQUIREMENTS

6.1 Supply Voltage

6.1.1 2.5inch Case Type

Allowable voltage	5.0V \pm 5%
Allowable noise/ripple	100 mV p-p or less
Allowable supply rise time	2 –100 msec

Note) Recommended host supplying capability for the drive is 2 A .

Note) The drive has over current protect circuit. (Rated current: 3.15A)

6.1.2 1.8inch case Type ,1.8inch case-less Type

Allowable voltage	3.3V \pm 5%
Allowable noise/ripple	100 mV p-p or less
Allowable supply rise time	2 –100 msec

Note) Recommended host supplying capability for the drive is 2 A .

Note) The drive has over current protect circuit. (Rated current: 3.15A)

6.2 Power Consumption

6.2.1 2.5inch Case Type

Operation	THNS064GG2BB (64 GB)	THNS128GG4BB (128 GB)	THNS256GG8BB (256 GB)	THNS512GG8BB (512 GB)
Read	1.1W Typ..	1.2W Typ.	1.4W Typ.	1.7W Typ.
Write	3.0W Typ.	3.2W Typ.	3.5W Typ.	4.2W Typ..
Idle (note 1)	65mW Typ.	65mW Typ.	65mW Typ.	75mW Typ.
Standby (note 2)	65mW Typ.	65mW Typ.	65mW Typ.	75mW Typ.
Sleep (note 2)	65mW Typ.	65mW Typ.	65mW Typ.	75mW Typ.

6.2.2 1.8inch case Type,1.8inch case-less Type

Operation	THNS064GG2BA THNS064GG2BN (64 GB)	THNS128GG4BA THNS128GG4BN (128 GB)	THNS256GG8BA THNS256GG8BN (256 GB)
Read	1.1W Typ..	1.2W Typ.	1.4W Typ.
Write	3.0W Typ.	3.2W Typ.	3.5W Typ.
Idle (note 1)	60mW Typ.	60mW Typ.	60mW Typ.
Standby (note 2)	60mW Typ.	60mW Typ.	60mW Typ.
Sleep (note 2)	60mW Typ.	60mW Typ.	60mW Typ.

(note1) The values are based on using S-ATA power management features. The Slumber mode is used for the idle mode power consumption measurements. And this mode may execute background write operation then the drive power consumption temporally changes to write power.

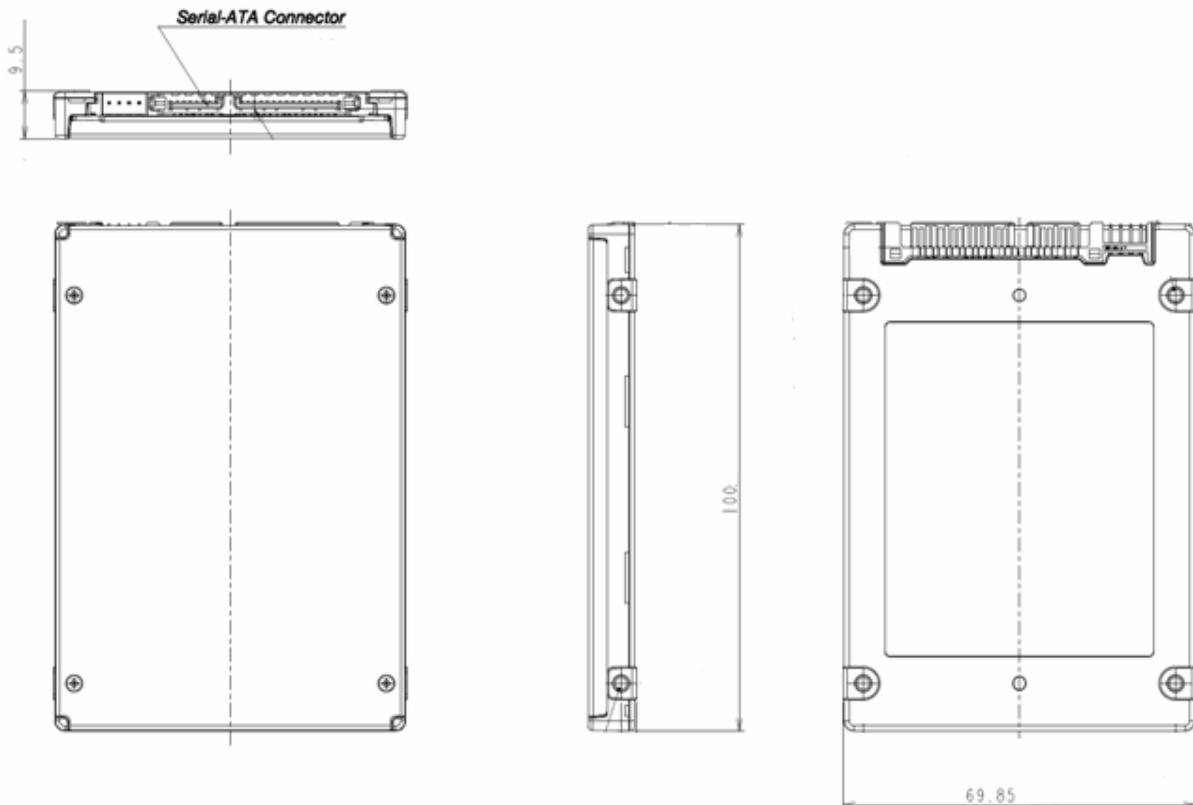
(note 2) The values are based on using S-ATA power management features. The Slumber mode is used for Standby and Sleep modes power consumption measurements.

7. MECHANICAL SPECIFICATIONS

7.1 2.5inch Case Type

7.1.1 Dimension

Width	69.85 mm
Height	9.5 mm
Length	100.0 mm



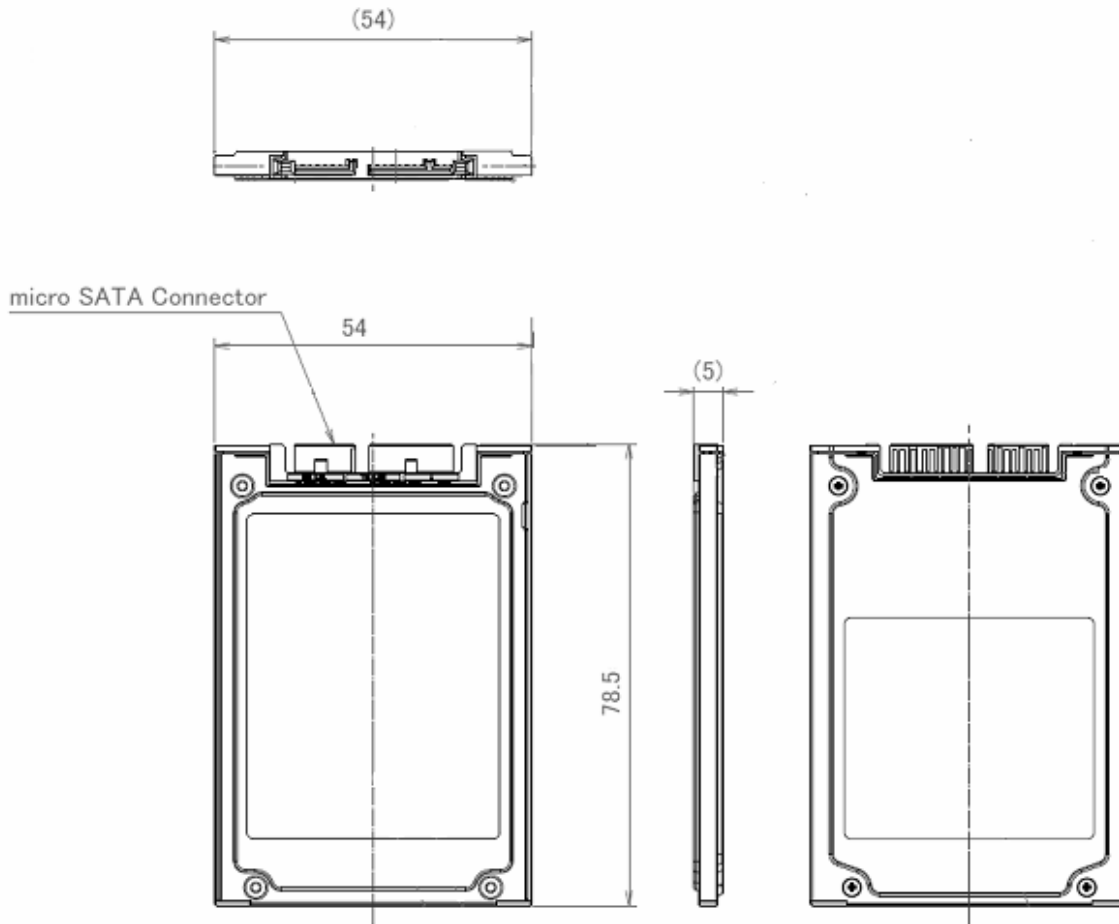
7.1.2 Weight

Capacity	Weight
64GB	78 gram (typ.)
128GB	
256GB	
512GB	91 gram (typ.)

7.2 1.8inch case Type

7.2.1 Dimension

Width	54.0 mm
Height	5.0 mm
Length	78.5 mm



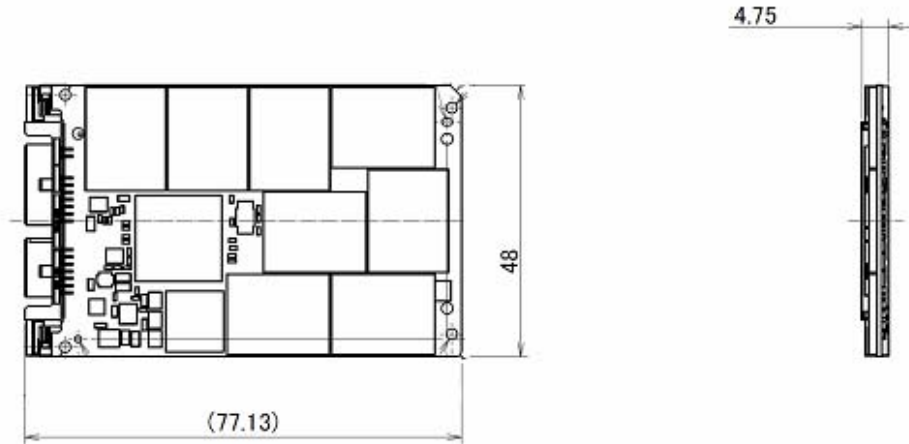
7.2.2 7.2 Weight

Weight	48 gram (typ.)
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7.3 1.8inch case-less Type

7.3.1 Dimension

Width	49.0 mm
Height	4.75 mm
Length	77.13 mm



7.3.2 Weight

Weight	15 gram (typ.)
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