

ACP-S0002

Industrial 3D TLC SATA Solid State Drive Series

Features

- SATA Revision 3.0
- SATA 1.5Gbps, 3Gbps, and 6Gbps Interface
- Flash Type: 3D TLC
- Support ECC Error Checking Function
- Support Trim and NCQ (Native Command Queuing) Command
- Read up to 550 MB/s , Write up to 520 MB/s
- Active Mode: < 4,900 mW
- Idle Mode: < 1,800 mW
- Operation Temperature: -40°C – 85°C
- MTBF: 1,500,000 Hours

Appearance





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Revision Table

Date	Revision	Content	By
2025/10/14	0.1	First Draft	Mark

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Specification

Capacity	
TLC	240GB up to 7680 GB (8TB)
Electrical/Physical Interface	
Interface	Compliant with SATA Revision 3.0 Compatible with SATA 1.5Gbps, 3Gbps and 6Gbps
Other	Support S.M.A.R.T Command Support Trim and NCQ (Native Command Queuing) Command Support AES256 (Optional) Support Hardware Quick Erase Function (Optional) Support Hardware Power Loss Protection (Optional)

Device Capacity

Capacity	Actual Capacity	Cash
240GB	224GB	256MB
480GB	447GB	512MB
960GB	894GB	1024MB
1920GB	1789GB	2048MB
3840GB	3577GB	4096MB
7680GB	7154GB	8192MB

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Performance

Capacity	Sequential	
	Read (MB/s)	Write (MB/s)
240GB	550	290
480GB	550	510
960GB	550	520
1920GB	550	520
3840GB	550	520
7680Gb	550	520

Notes:

1. Test platform: MSI-Z170A GAMING-M7, i5-6400 CPU, 8GB DDR4, Windows® 8.1 64-bit AHCI mode.
2. Performance testing software: Crystal Disk Mark (Version 5.2.0x64).
3. IOPS testing software: Iometer 2008, unit: IOPs

Environment Compliance

Operating Temp.	-40°C to +85°C
Storage Temp.	-50°C to +95°C
Humidity	≤ 95% (At 85°C, Non-Condensing)
Shock	1500G 0-p with Half Sine Wave (0.5ms)
Vibration	80Hz (10 to 2000Hz)

Environmental performance may vary according to the integration method or final integration scenario.

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TBW (Terabytes Written)

Data Storage Period	10 Years	
MTBF	1,500,000 Hrs	
Capacity	Flash Type	TBW
240GB	Kioxia BiCS5	378
480GB	Kioxia BiCS5	794
960GB	Kioxia BiCS5	1580
1920GB	Kioxia BiCS5	3118
3840GB	Kioxia BiCS5	6114
7680Gb	Kioxia BiCS5	11751

Power Consumption

Capacity	Read	Write	Idle
240GB	2,100	2,200	1,100
480GB	2,400	2,900	1,300
960GB	2,700	3,100	1,600
1920GB	3,000	3,200	1,600
3840GB	3,200	4,000	1,600
7680Gb	3,600	4,900	1,800

Unit: mW

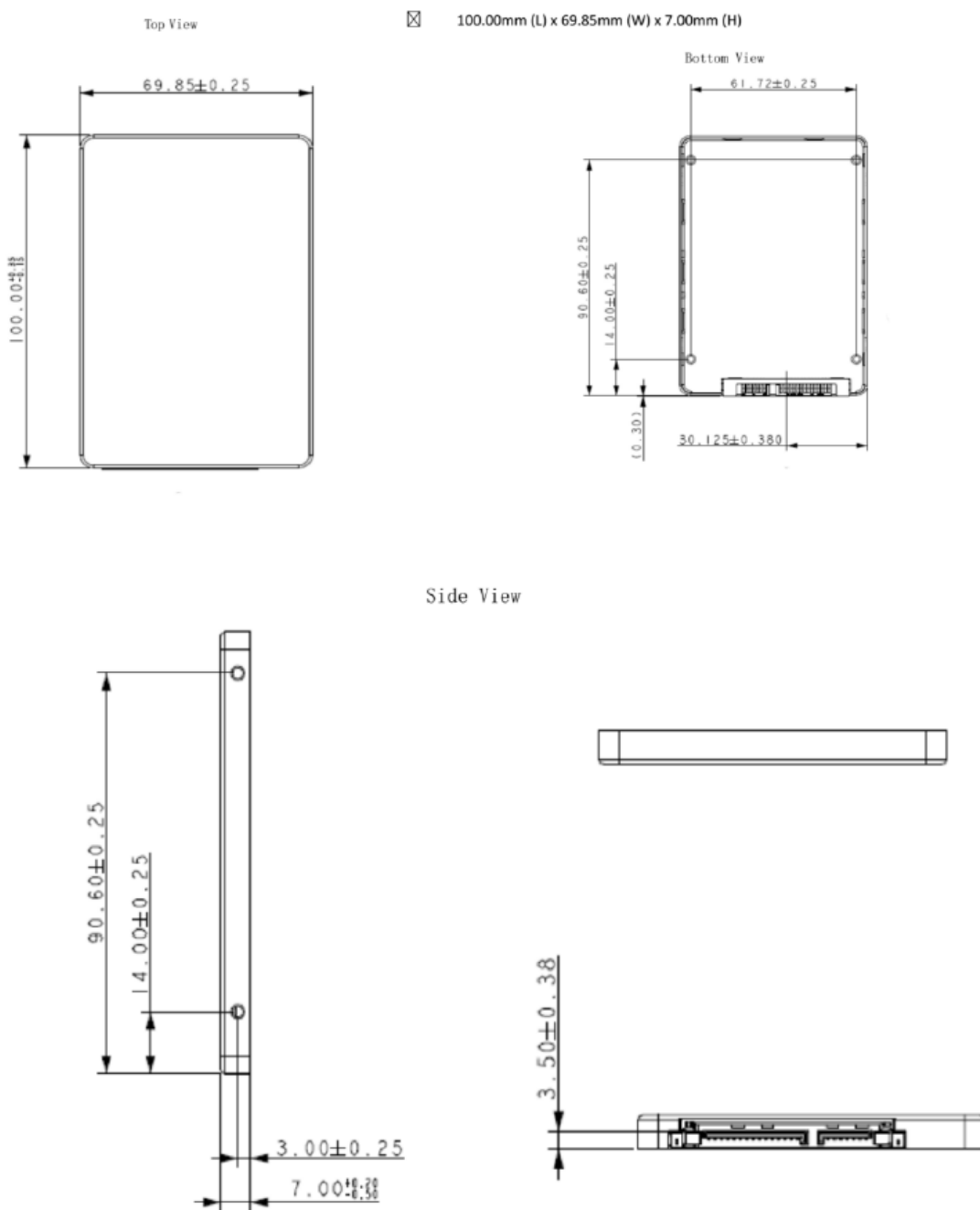
Notes:

The above test data is based on the data tested by Crystal Disk Mark (Version 5.2.0 x 64) software when running continuous reading and writing and in standby mode.

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Device Dimensions (mm)





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Deliverables

1	Industrial 3D TLC SATA Solid State Drive Series
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Ordering Information

Model Name	Description	Unit
ACP-S0002-240	Industrial SATA 240GB Solid State Drive	1
ACP-S0002-480	Industrial SATA 480GB Solid State Drive	1
ACP-S0002-960	Industrial SATA 960GB Solid State Drive	1
ACP-S0002-2T	Industrial SATA 2TB Solid State Drive	1
ACP-S0002-4T	Industrial SATA 4TB Solid State Drive	1
ACP-S0002-8T	Industrial SATA 8TB Solid State Drive	1

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