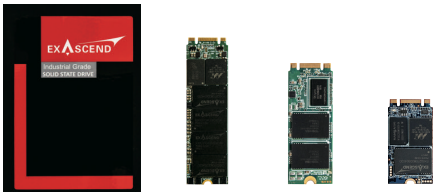
SI2, SI3

Exascend Industrial SATA3 Product Series



In addition to reliability and stability, the proliferation of IoT and Industry 4.0 further necessitate the adoption of high performance data-intensive storage solutions. Requirements for flash storage in industrial systems are as diverse as the applications, depending on the environment in which they will be used and the usage model, as well as the overall cost and durability of the entire system. Criteria to consider in products selection, endurance, extended temperature, performance, capacity, latency, power, thermal; Exascend can assist with identifying and customizing the right industrial storage product for the application.

One new arising application in the industrial field is the 5G technology . 5G technology is used in the daily communication field, Internet of Things, remote operation, automatic and collaborative driving, and set to replace or supplement existing connection technologies. Storage in the 5G era requires higher transmission rate and a lower latency to be used in data centers, transportation facilities, and mobile connectivity.

Exascend's SI2 and SI3 product series are build for high transfer rate with high QoS (Quality of Service) operating in wide temperature.

Target Applications

- Factory Automation
- IoT Gateway, Transportation
- Medical Equipment
- Telemetry Devices
- 5G Telecommunication
- Autonomous Driving
- Surveillance

Key Features

- Extended Endurance/Lifespan
- Wide Temperature Range
- Enterprise Performance, High QoS, Low Latency
- Fix Major BOM (Controller/Flash/Firmware)
- Highly Customizable (Hardware / Software / Configuration and Testing)

ENGINEERING INSPIRATION TO INNOVATION

Optional Value Added Features

- Adjustable TBW/DWPD for long life support (DWPD=1,1.5,3, or specified value)
- Fix major component and optional fix for all components
- Integrated LED light indication for production monitoring
- Write protect or read-only mode for security purpose
- Exclusive factory data recovery service
- Optional leaded production process
- Self-define form factor or interface
- Support integration of life monitoring program

Product Series	SI2	SI3		
Sub-Series	Standard	Standard	Extended	pSLC
Physical Information				
Form Factor	2.5" ; M.2 2280 / 2260 / 2242 ; mSATA			
Interface	SATAIII, 6.0Gbps			
Capacity	120GB~3840GB	240GB~3840GB	240GB~1920GB	240GB~960GB
Flash Type	MLC	3D TLC		
Input Voltage	5V±5%; 3.3V±5%			
Power Consumption	Active<5W; Idle<0.5W			
Performance				
Maximum Sequencial Read (MB/s)	540			
Maximum Sequencial Write (MB/s)	520			
Max. 4K Random Read (IOPS)	90,000	95,000		
Max. 4K Random Write (IOPS)	85,000			
Reliability/ Endurance				
Operational Temperature (°C)	-40 - 85°			
Storage Temperature (°C)	-45 - 90°			
UBER	1 sector per 10^{17} bits read			
TBW (max.)**	2,400	2,400	2,400	6,000
MTBF (hours)	2,000,000			
Warranty (years)	3			
Planned Schedule	MP	MP	Upon Request	

■ M.2 2280 ■ 2.5"

Product Series	SI2	SI3		
Sub-Series	Standard	Standard	Extended	pSLC
120GB	■ ■			
240GB	■ ■	■ ■	■ ■	■ ■
480GB	■ ■	■ ■	■ ■	■ ■
960GB	■ ■	■ ■	■ ■	■
1920GB	■ ■	■ ■	■	
3840GB	■	■		

- Warranty is until the sataed warranty years or reached the guaranteed TBW
- 「—」Usage does not typically request such information
- DWPD stands for Drive Writes Per Day. TBW = DWPD * capacity * warranty * 365 / 1000

** TBW and DWPD are JESD47 Compliant