



# SATA 2.5" ArmourDrive™

89 PX Series

Product Brief

## Product Description

The SATA 2.5" ArmourDrive™ solid state drive (SSD) family comprises high-reliability, high-performance storage products with a SATA 6Gb/s interface. The 89 PX Series offers both DRAM and DRAM-less SSDs—in a wide range of capacities and temperature ranges—to better support customer needs. To improve SSD endurance, the SATA 2.5" ArmourDrive firmware effectively optimizes the use of NAND flash memory's program/erase (P/E) cycles and minimizes write amplification.

Built in a standard 2.5-inch form factor housing and tested to withstand shock and vibration, 89 PX Series SSDs offer a rugged alternative to hard disk drives (HDDs). SATA 2.5" ArmourDrive implements advanced NAND flash management technology to preserve data integrity and extend SSD longevity. Using the latest 3-bits-per-cell (TLC) 3D NAND with improved endurance, SATA 2.5" ArmourDrive is ideal for industrial applications that require hot-swappable and reliable high-capacity data storage.



## Key Features

### 2.5" Form Factor SATA SSD

- 100mm x 69.85mm x 7.00mm
- SATA 6Gb/s, 3Gb/s and 1.5Gb/s
- Compliant with SATA Revision 3.2
- Supports 48-bit address feature set

### High Performance

- Sequential Read / Write performance up to 560MB/s / 540MB/s
- Optimizes order of commands with NCQ up to 32 commands
- 256MB to 512MB DDR3 DRAM (available on select products)

### Built-in ECC

- Uses advanced LDPC bit error detection and correction optimized for 3D NAND

### Pre-programmed Firmware

- Field-upgradeable firmware to add new features and enhance device performance
- Configurable algorithms optimize data retention based on the usage model
- Embedded FFS enables seamless capacity upgrade with no change to host software

### Advanced Flash Management

- Dynamic and static wear leveling algorithms maximize product lifespan
- Supports TRIM commands to remove invalid data which is no longer in use

### Bad Block Management

- Replaces bad blocks with spare blocks in the NAND flash to prevent uncorrectable errors

### SSD Lifespan Monitoring

- Supports SMART command-based alerts indicating the remaining useful product life

### Data Security

- Secure Erase for quick data wipe/factory reset

### Power Interrupt Data Protection

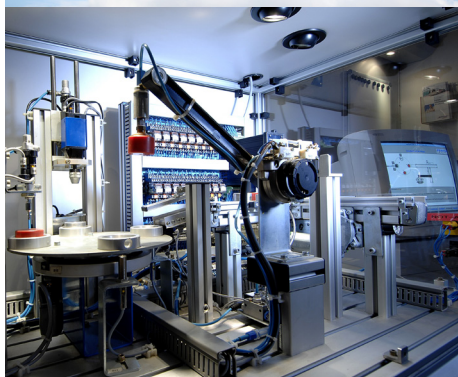
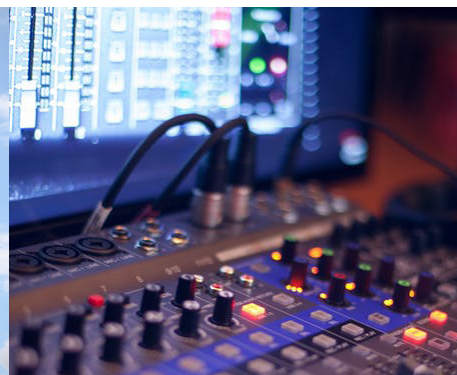
- Helps prevent data loss during unexpected power failure events

### Wide Range of Capacities

- 32 GB - 1 TB (DRAM-less)
- 128 GB - 2 TB (DRAM)

### Industrial and Commercial Temperatures

- Industrial operation: -40°C to +85°C (DRAM-less)
- Commercial operation: 0°C to +70°C (DRAM)



## Applications

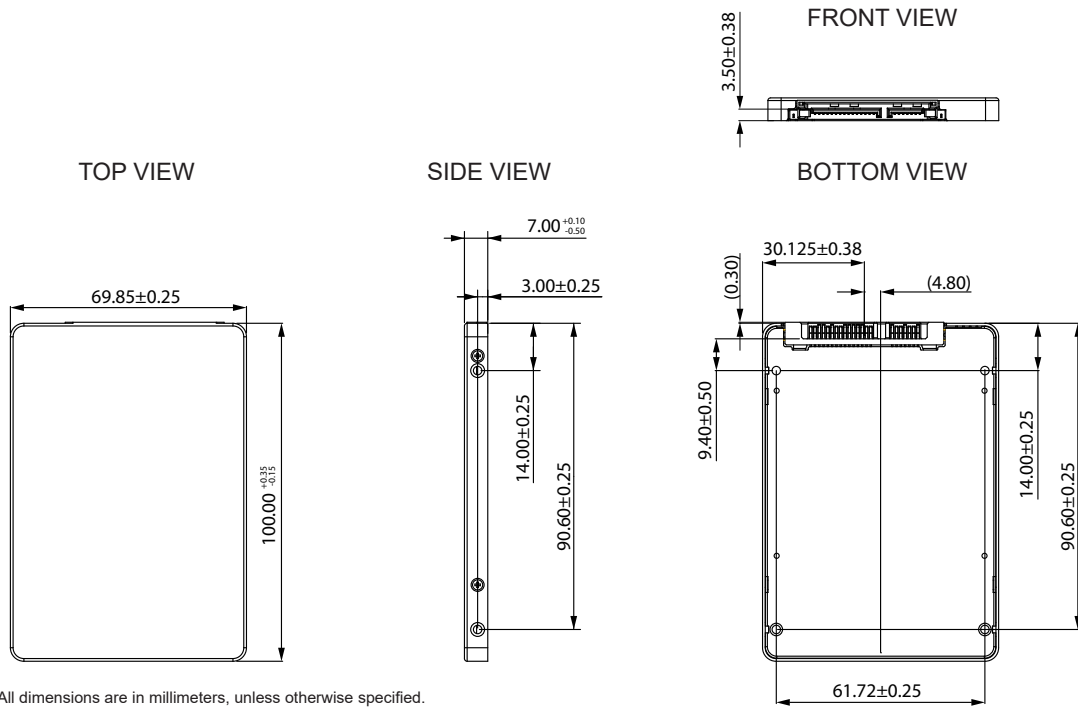
- Blade server
- Gateway / Switch
- Multi-function printer
- Video conferencing
- Base station
- Industrial automation & control
- Rugged PC
- Infotainment
- Navigation
- Digital signage
- Transportation
- Security / Surveillance
- Network-attached storage
- Data logger
- Healthcare
- Test & measurement

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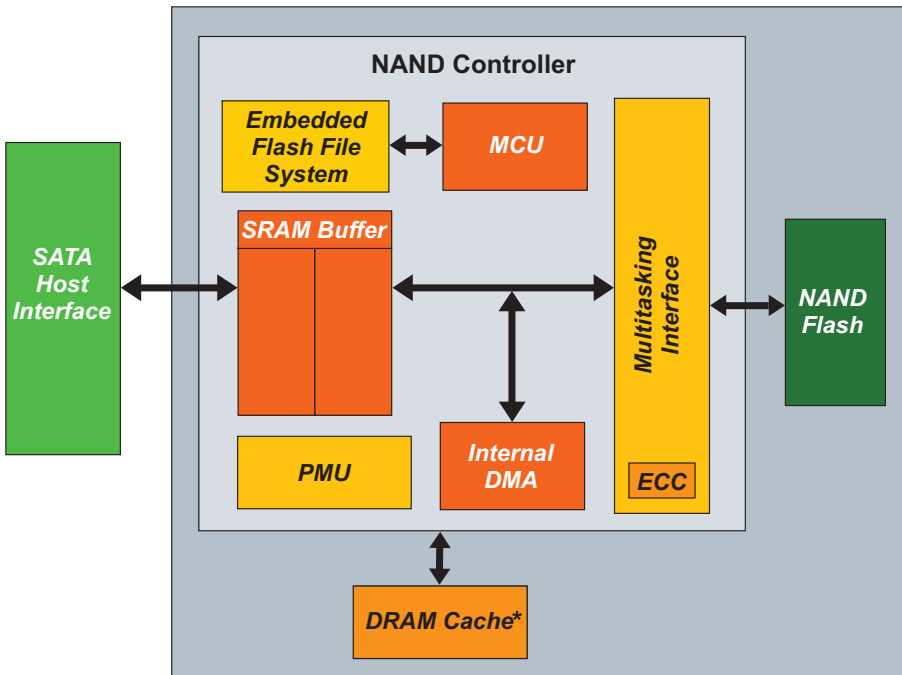
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## SATA 2.5" ArmourDrive Board Diagrams

100mm x 69.85mm x 7.00mm  
Pb-free (RoHS compliant)






## SATA 2.5" ArmourDrive Block Diagram



\*DRAM available on select products

## Product Lineup

89 PX Series SATA 2.5" ArmourDrive			
Capacity	DRAM	Temperature Range	NAND Configuration / Endurance
32 GB	No	Industrial	3 bits per cell (3D TLC) / 3K P/E cycles
64 GB	No	Industrial	
128 GB	Yes	Commercial	
	No	Industrial	
256 GB	Yes	Commercial	
	No	Industrial	
512 GB	Yes	Commercial	
	No	Industrial	
1 TB	Yes	Commercial	
	No	Industrial	
2 TB	Yes	Commercial	

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**ArmourDrive FAQs:** [www.greenliant.com/armourdrive-faqs](http://www.greenliant.com/armourdrive-faqs)

For more information, contact your Greenliant representative: [www.greenliant.com/sales](http://www.greenliant.com/sales)



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