

## Industrial pSLC 2.5" SATA SSD

# SSD550 SERIES

SATA III

6.0 Gbit/s

SLC Cache

pSLC NAND



## PRODUCT FEATURES

- pSLC Flash Technology
- Global Wear Leveling and Early weak block retirement
- TRIM, NCQ, DEVSLP, ATA Security Feature Set supported
- Lifetime Enhancements
  - Direct-to-TLC and SLC Cache enhancement to ensure the optimized WAF
  - Block/Page RAID function to ensure data recovery
  - StaticDataRefresh to keep data integrity
- Reliable Industrial grade integrated Active PMU and complete protection design with OVP, OCP, Surge rejection and Short protection
- External DRAM to achieve the optimal sustained read/write performance (R/S series)
- Power shielding firmware architecture to ensure power failure resilience
- Dual secure design with Advanced PFP (Power failure protection) technology to flush Data from DRAM cache to flash with dedicated polymer capacitor components while sudden power-off situations happen (R Series only)
- AES256 Encryption and TCG Opal 2.0 compliant (by request)
- SP SMART Toolbox
- SP SMART Embedded and SMART IoT service (by request)
- Ready for harsh environment design (R Series only)

compliant with MIL-STD-810F and MIL-STD-460D for Industrial R series

# PRODUCT SUMMARY

SSD550 Series

- capacities : 32GB, 64GB, 128GB, 256GB
- Form Factor : 2.5" SATA Solid State Drive (70 mm x 100 mm x 7 mm)
- Compliance : SATA Revision 3.1 - 6 Gbit/s (3 Gbit/s and 1.5 Gbit/s backward compatible)
- Command Sets : Supports ATA/ATAPI-8 and ACS-2
- Performance :

	32GB	64GB	128GB	256GB
Sequential Read (MB/s max.)	560	560	560	560
Sequential Write (MB/s max.)	410	525	525	525
Random 4K Read (IOPS max.)	67000	92000	95000	95000
Random 4K Write (IOPS max.)	86000	89000	89000	89000

\* Actual performance may vary based on the specific model and capacity

- Operating Temperature Range :  
Normal : 0 °C to 70 °C  
Extended : -15 °C to 85 °C (by request)  
Wide : -40 °C to 85 °C (by request)
- Storage Temperature Range : -55°C to 95°C
- Operating Voltage : 5 V ± 10%
- Power Consumption :

	32GB	64GB	128GB	256GB
Read (active)	385	410	420	440
Write (active)	420	460	500	540
Stand-by	110	110	110	110

\* Actual performance may vary based on the specific model and capacity

(Unit: mA)

- Data Retention @40 °C : 10 Years @ Life Begin; 1 Year @ Life End
- Endurance in Tera Bytes Written (TBW) :

TBW is estimated by formula TBW= (Capacity x PE Cycles)/ (WAF x2). Assumption of guard band for the wear leveling is 2.

	32GB	64GB	128GB	256GB
TBW (guard band factor 2)	467.8	935.6	1871.2	3742.4

- Mechanical (IEC-60068) :
- LDPC ECC engine and Block/Page RAID
- Mean Time Between Failure : > 2,000,000 hours
- Data Reliability : Non-recover Read (UBER) ≤ 10<sup>-16</sup>
- Serious quality control and assurance

(Unit: TB)

Vibration : 15G, 10 ~ 2001Hz  
Drop : 76cm  
shock : 1,500G@0.6ms

100% NAND Flash screening  
High endurance product design with 3D NAND and pSLC product offerings  
Implement high/low temperature dynamic burn-in in each lot production to monitor production quality to meet design specification  
Reliability criteria compliant with international standards IEC-60068/61000

\* Information might be changed or updated without notice.