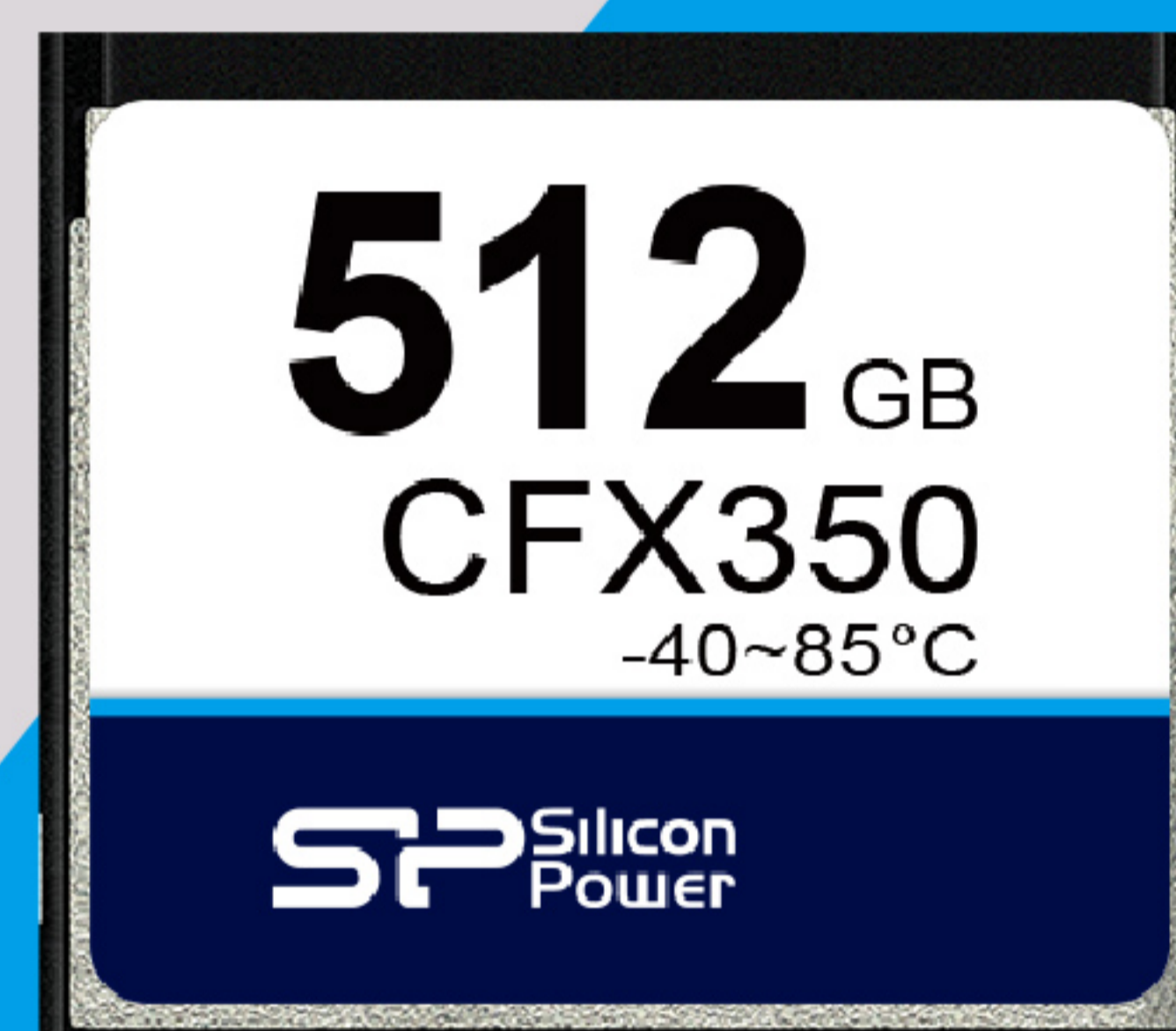
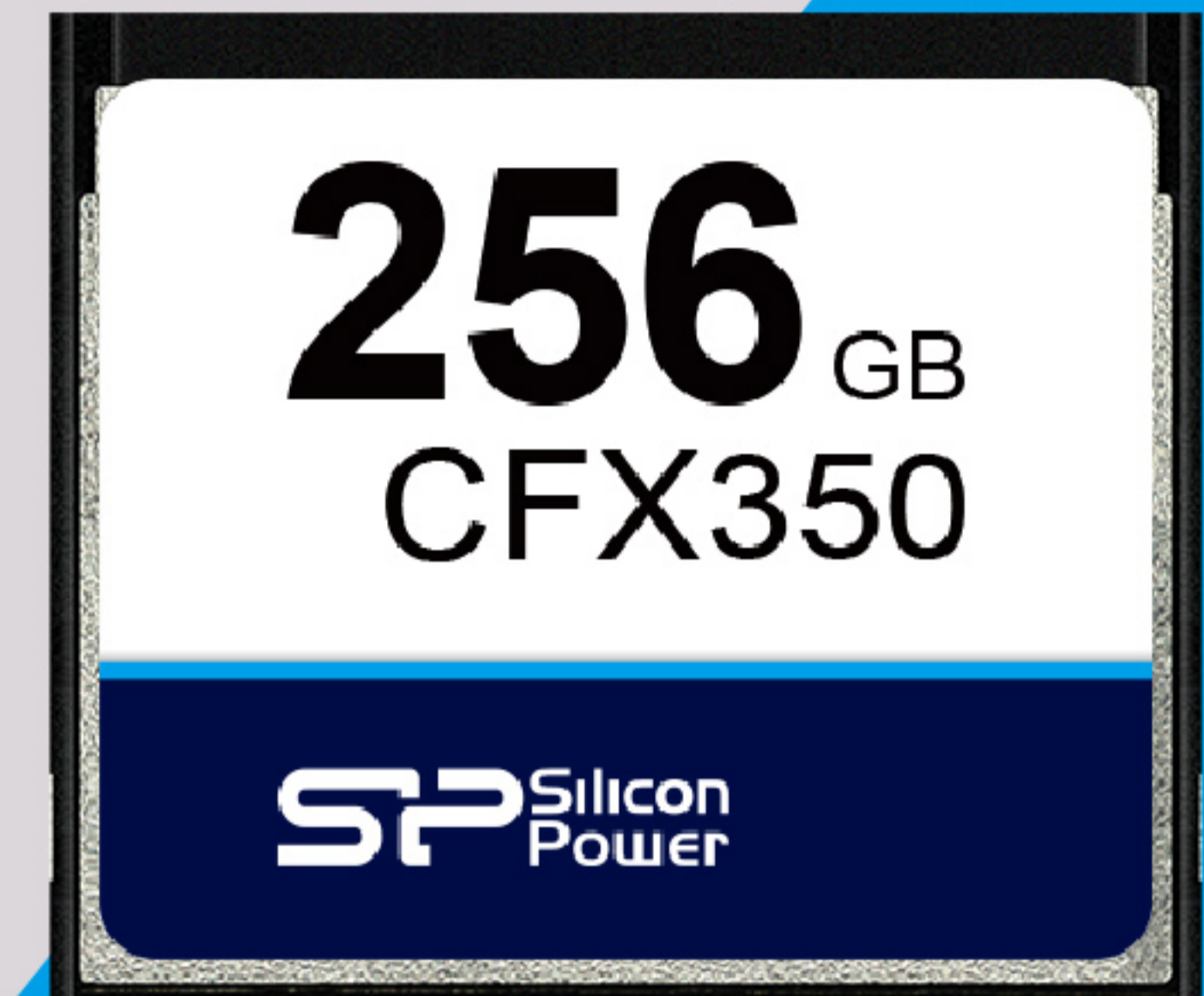


Industrial 3D NAND CFast Card

CFX350S SERIES

CFast Card 6.0 Gbit/s

SLC Cache 3D NAND



PRODUCT FEATURES

- 3D NAND 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
- Power shielding firmware architecture to ensure power failure resilience
- AES256 Encryption and TCG Opal 2.0 compliant (by request)
- SP SMART Toolbox
- SP SMART Embedded and SMART IoT service (by request)

PRODUCT SUMMARY

CFX350S Series

- Capacities : 64GB, 128GB, 256GB, 512GB
- Form Factor : CFast (36.4 x 42.8 x 3.6mm)
- Compliance : CFast 2.0 / 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 :

	64GB	128GB	256GB	512GB
Sequential Read (max.)	365	520	520	520
Sequential Write (max.)	190	370	480	480
Random 4K Read (IOPS max.)	25000	47000	78000	72000
Random 4K Write (IOPS max.)	19000	30000	57000	50000

* 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)
Industrial : -40°C to 85°C (by request)
- Storage Temperature Range : -55°C to 95°C
- Operating Voltage : 3.3 V \pm 10%
- Power Consumption :

	64GB	128GB	256GB	512GB
Read (active)	445	505	510	540
Write (active)	405	540	580	630
Stand-by	160	160	160	170

* 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 $TBW = (Capacity \times PE \text{ Cycles}) / (WAF \times 2)$. Assumption of guard band for the wear leveling is 2.

	64GB	128GB	256GB	512GB
TBW (guard band factor 2)	93	187	374	748

- Mechanical (IEC-60068) : (Unit: TB)
Vibration : 15G, 10 ~ 2001Hz
Drop : 76cm
Shock : 1,500G@0.6ms
- LDPC ECC with up to 120 bit correction per 1 KByte page to ensure reliable 3K PE cycles
- Mean Time Between Failure : > 2,000,000 hours
- Data Reliability : Non-recover Read (UBER) $\leq 10^{-16}$
- Serious quality control and assurance
-100% NAND Flash screening
-High endurance product design with MLC 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.