

## Industrial 3D NAND microSD Card

# SDT350 SERIES

SD 3.0

UHS-I

3K PE Cycles

3D NAND



## PRODUCT FEATURES

- 3D NAND Flash Technology
- Static & Dynamic Wear Leveling and Early weak block retirement
- StrongECC ECC capable of correcting error up to 144bit/KB to guarantee 3K PE cycles endurance for 3D NAND
- Sudden Power-Off Recovery (SPOR) resilient firmware with capability to avoid firmware crash when sudden power loss or unstable voltage occurs during operation mode and device initialization stage.
- Advanced Fidelity File Writing algorithm to make sure 100% data integrity while writing for Industrial 3D TLC model SDT350 series
- Auto Read-Refresh, Read retry, Garbage collection
- SP Toolbox utility program to monitor Overall health status, Power Cycle count, Abnormal power cycle count, Bad block status including initial bad blocks, later bad blocks and spare blocks, Erase counts, ECC Uncorrectable counts.
- SP SMART Embedded applications with seamless integration with an edge' s device operating system.
- SP SMART IoT Sphere providing cloud service with alarm and notifications which monitors and analyzes the health and status of SP Flash products inside the connected devices.

# PRODUCT SUMMARY

- Capacities: 32GB, 64GB, 128GB, 256GB
- Form Factor: microSD
- Interface SD Specification: SD 3.0 UHS-I
- Speed Class: Class 10, U1
- Performance :

	32GB	64GB	128GB	256GB	Units
Sequential Read (MB/s max.)		95			MB/s
Sequential Write (MB/s max.)		25			MB/s

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

- Operating Temperature Range :

Normal: -25 °C to 85 °C

Wide: -40 °C to 85 °C

Storage Temperature Range: -40 °C to 85 °C

- Operating Voltage: 3.3 V  $\pm$  10%
- Power Consumption (Maximum, unit: mA)
  - Read : 400mA
  - Write: 400mA
  - Stand-by: 1mA

\*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)

	32GB	64GB	128GB	256GB	Units
TBW (guard band factor 2)	20	41	83	166	TB

- Mechanical (SDA Spec) :

Bare Drop: 150cm free fall 6 faces

Torque: 0.15N

Bending: 10N-m

- StrongECC ECC up to 144 bits/1KB to ensure reliable 3K PE cycles
- Mean Time Between Failure:  $\geq$ 2,000,000 hours
- Serious quality control and assurance
  - 100% NAND Flash screening
  - Duration: 10,000 cycles
  - Compliant with SDA Spec. ISO 7816-1 to pass UV light exposure and X-ray exposure
  - Reliability criteria compliant with international standards IEC-60068 (Environmental test) and IEC-61000-4-2 (ESD, Contact +/-4KV, Air discharge +/-8KV)

\* microSDHC and microSDXC Logos are trademarks of SD-3C LLC.

\* Information might be changed or updated without notice.