

## Industrial MLC NAND

SD CARD

**SDI330** SERIES

microSD CARD

**SDT330** SERIES

SD 3.0

UHS-I

3K PE Cycles

MLC NAND



## PRODUCT FEATURES

- MLC Flash Technology with 3K PE cycles endurance
- Global Wear Leveling, Static & Dynamic Wear Leveling and Early weak block retirement
- 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.
- 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: 8GB, 16GB, 32GB, 64GB
- 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. )  | 85   | 85   | 85    | 85    | MB/s  |
| Sequential Write (MB/s max. ) | 20   | 30   | 30    | 30    | 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) | 9.6  | 19.2 | 38.4  | 76.8  | TB    |

- Mechanical (SDA Spec) :  
Bare Drop: 150cm free fall 6 faces  
Torque: 0.15N  
Bending: 10N-m
- BCH ECC up to 43 bits/1KB to ensure reliable 3K PE cycles with MLC Flash
- Mean Time Between Failure: > =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)

\* SD, microSD, SDHC, microSDHC, SDXC and microSDXC Logos are trademarks of SD-3C LLC.

\* Information might be changed or updated without notice.