Automotive Application

amp inc
Memory and Storage Solutions for today's world
Accelerated Memory Production, Inc.

A60b

A60bm

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3

- Capacities: 4GB - 128GB MLC
- Performance: 95MB/s read, 90MB/s write
- Industrial Grade: -40 to +85 °C
- Commercial Grade: -25 to +85 °C
- AEC Q100, ISO 26262, IATF 16949 certified
- BCH
- Auto-Read Refresh
- Power Loss Protection
- Advanced Wear Leveling
- SMART Health Monitor
- Water proof, Dust proof and ESD resistant
- 30u gold
- Locked BOM

ATP

S650Si

S650Si

SDXC™ UHS-I & microSDXC™ UHS-I Memory Card UHS Speed Class 3

- Capacity: 64GB - 512GB
- Performance: 95MB/s read, 80MB/s write
- A1 (Application Performance Class 1)
- Industrial Temp Operable: -40°C to +85°C
- 11K program/erase (P/E) cycles with Native TLC Configuration
- Water proof, Dust proof and ESD resistant
- ATP SD Life Monitor: Intelligent Workload Inspection
- Power failure protection

EmBestor

EA35DQ-128G

EA3TFQ-064G

ET1288 with sMLC SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 1, Video Speed Class 10

- Capacity: 4GB -128GB sMLC NAND (Standard SD) 4GB - 64GB sMLC NAND (microSD)
- Performance: 95MB/s read, 30MB/s write (Standard SD) 90MB/s read, 35MB/s write (microSD)
- Operation Temperature: -40°C to +85°C
- SIP (System in package) module assembly technology
- Water proof and Dust proof by IEC/EN 60529 IP58 (SD) and IP68 (microSD)
- Sudden Power-fail management
- Security Function (Hidden Disk or Write Protect) to ensure data security
- S.M.A.R.T life monitor to check and report the health condition of storage
- Shock test Vibration Test

swissbit®

S-52 AT

S-52u AT

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 32GB - 128GB 3D NAND TLC
- Performance: 94MB/s read, 84MB/s write
- A2 (Application Performance Class 2)
- Operating Temperature: -40°C to +85°C
- AEC-Q100-3 and IATF 16949 compliancy
- SiP for extreme dust, water and ESD proof
- Optimized for mission critical temperature and ambient conditions
- Optimized for Car-navigation or read-mostly use cases
- Optimized for long life cycle that requires superior data retention because of high temperature mission profile
- Advanced power-off reliability technology
- Swissbit Life Time Monitor Support

Western Digital.

SD5DAG3-64G-XA

SDHC/SDXC™ UHS-I Memory Card UHS Speed Class 1

- Capacities: 8GB-64GB
- AEC-Q100 Temperature support -40°C to +85°C
- ECC, Wear-Leveling, Bad Block Management
- Health Monitor, Read Refresh, Programmable String
- Host Lock and Secure Field Firmware Update

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Surveillance Application

amp inc
Memory and Storage Solutions for today's world
Accelerated Memory Production, Inc.

A70b

A70s

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3

- Capacities: 2GB - 64GB (Standard SD) MLC 4GB - 64GB (microSD) MLC
- Industrial Grade: -40 to +85 °C
- Commercial Grade: -25 to +85 °C
- BCH (SECC for microSD)
- Performance: Read 95MB/s, Write 90MB/s
- 30,000 P/E Cycles / 3,840 TBW
- High IOPS
- Water proof up to 1000mm, Dust proof and ESD resistant
- SMART Health Monitor
- Locked BOM

Biwin Storage Technology

TGC207 TDSDM25611S1A

TGC209 TDUDM25611S1A

SD/SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 32GB - 256GB 3D TLC
- Performance: 160MB/s read, 123MB/s write
- Industrial Grade: -40 to +85 °C
- BIWIN Self-developed firmware algorithm for video recording without FPS drops
- S.M.A.R.T
- LDPC, ECC
- Power Loss Protection (Firmware-based)
- Garbage Collection
- Bad Block Management
- Dynamic/Static Wear Leveling
- A1 (Application Performance Class 1)
- Water proof, Dust proof, Shock resistant, Drop resistant, X-Ray proof, Anti-Magnetic and ESD resistant

EmBestor

EA3SDM-256G

EA3TFM-128G

ET1288 with MLC SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 1, Video Speed Class 10

- Capacity: 8GB -256GB MLC NAND (Standard SD) 8GB -128GB MLC NAND (microSD)
- Performance: 95MB/s read, 30MB/s write (Standard SD) 90MB/s read, 35MB/s write (microSD)
- Operation Temperature: -40°C to +85°C
- SIP (System in package) module assembly technology
- Water proof and Dust proof by IEC/EN 60529 IP58 (SD) and IP68 (microSD)
- Sudden Power-fail management
- Security Function (Hidden Disk or Write Protect) to ensure data security
- S.M.A.R.T life monitor to check and report the health condition of storage
- Support Adaptive Wear Leveling to provide High Endurance

HAGIWARA Solutions

NSDB-256GK(S00TLS

MSDB-256GK(S00TLS

D520K SDXC™ UHS-I & microSDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 64GB - 256GB 3D NAND TLC (StandardSD) 64GB - 512GB 3D NAND TLC (microSD)
- Performance: 90MB/s read, 80MB/s write
- Operating Temperature: -25℃ to +85℃
- Storage Temperature: -40℃ to +85℃
- Endurance: 3K P/E Cycles
- Application Performance Class 2
- Sudden Power Off Recovery
- LiveMonitorPlus (Health Monitor)
- Locked BOM

※We also have the lineup of "pSLC" products

Kingston DIGITAL

SDCE

microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 1, Video Speed Class 10

- Capacities: 32GB - 256GB
- Performance: 95MB/s read, 45MB/s write
- A1 (Application Performance Class 1)
- Operating Temperature: -25°C to +85°C
- Endurance: 3K P/E Cycles
- Reliability: 24/7 Video Recording
- Health Monitor Functionality
- Water, Temperature and X-Ray Proof

swissbit®

S-52 VR

S-52u VR

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 32GB - 128GB TLC NAND
- Performance: 94MB/s read, 84MB/s write
- A2 (Application Performance Class 2)
- Operating Temperature: -40°C to +85°C
- SiP for extreme dust, water and ESD proof
- Optimized for mission critical temperature and ambient conditions
- Optimized for sequential write operations especially for video recording, dash cams, body cams or wildlife cameras
- Optimized for long life cycle that requires superior data retention because of high temperature mission profile
- Advanced power-off reliability technology

ATP

S750Pi

S750Pi

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3

- Capacity: 16GB - 128GB (Standard SD)
- Performance: 95MB/s read, 80MB/s write
- Industrial Temp operable: -40°C to +85°C
- 100K+ program/erase (P/E) cycles with pSLC Configuration
- 109k+ hours of continuous FHD recording*
- Low Latency: Ready to Record in <1 Second
- Writes 50% Faster compared to consumer-rated cards
- Power failure protection

*Test based on 128 GB memory card

DELKIN DEVICES

SE64FSTL2-3B000-3

SE64FSTL2-U3000-3

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 8GB - 64GB (Standard SD) 8GB - 64GB (microSD)
- Operating Temperature:-40°C to +85°C
- Storage Temperature: -40°C to +85°C
- 3D SLC Mode
- Static and Dynamic Wear Leveling
- SMART Function
- Locked BOM

Greenliant®

GLS93SP256G3

GLS93MP256G3

ArmourDrive PX Series SDXC™ UHS-I & microSDXC™ UHS-I Memory Card Video Speed Class 30

- Capacities: 64GB-256GB
- Performance: 95MB/s read, 85MB/s write
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C
- Endurance: 3K P/E cycles
- Reliability: MTBF more than 3 million hours
- Waterproof: water depth up to 1000mm
- Shock resistant: 1500G
- Vibration resistant: 20G
- Lifespan monitoring: SMART commands

innodisk

DH5DM-A28S06KE1SL

Innodisk microSD 3IE4 microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- UHS Speed Class 3, Video Speed Class 30
- Capacity: 16GB~128GB
- Operating Temperature: -40°C to +85°C
- Performance: 90MB/s read, 80MB/s write
- PE Cycle: 100K times
- Designed for Demanding Industrial Applications.

Micron

i400

Video Security Grade microSDXC UHS-I Memory Card UHS Speed Class 3

- Capacities: 64GB to 1.5TB
- A2 (Application Performance Class 2)
- Operating temperature: -25°C to +85°C
- Endurance: up to 1800TBW
- 5 years continuous 24x7 recording
- Up to 4 months of edge storage
- Optimized 4K 30FPS video + AI event recording
- Health Monitor and Field Firmware Update Functionality
- 2 million hours mean time to failure
- 176-layer 3D NAND

Western Digital.

WDD100T1P0C

WDD256G1P1B

WD Purple Series microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 1 & UHS Speed Class 3, Video Speed Class 30

- Capacities: 32GB-1TB
- Operating Temperatures: -25°C to +85°C
- Endurance: up to 3K P/E Cycles
- Optimized for 24/7 video surveillance cameras
- Weather resistant, Humidity resistant
- Advanced functionality for AI-enabled smart cameras
- Health Monitor Functionality

Security

ATP

SecurStor

Speed Class 4 microSDHC™ Speed Class 4 Memory Card

- Multi-Layer Authentication
- Secure Boot & Erase Solution
- Hardware AES-256 XTS Encryption
- Compliance with (AFSSI) 5020 standard or alike is available on a per-request basis

*Actual availability of specific features may vary by product and capacity. Please contact ATP for details.

EmBestor

EA35DT-512G

EA3TFT-512G

ET1289 with TLC SDXC™ UHS-I & microSDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacity: 64GB -512GB TLC NAND (Standard SD) 64GB -512GB TLC NAND (microSD)
- Performance: 90MB/s read, 70MB/s write (Standard SD) 90MB/s read, 70MB/s write (microSD)
- Hardware combine Firmware Encryption provides high compatibility solution.
- Adaptive Wear Leveling to provide high endurance storage solution.
- Advanced S.M.A.R.T life monitor to check and report the health condition of storage
- Sudden Power-fail management
- SIP (System in package) module assembly technology for higher water and dust protection

TEAMGROUP Team INDUSTRIAL

S730 Security Card

microSD/SDHC™ Speed Class 6 Memory Card

- Capacities: 512MB-32GB MLC NAND
- Operating temperature: -40°C to +85°C (AEC Q100-3 Grade)
- Storage temperature: -40°C to +125°C
- Endurance: 3K P/E cycle
- AES-256bit Hardware Encryption
- Security key encrypt and full/partial disk secure partition
- Device design in and user application program security management (Support Windows, Linux and Mac OS)
- IoT device, camera, security boot application

swissbit®

iShield Camera

microSDHC™ UHS-I Memory Card UHS Speed Class 1

- Capacities: 16GB-32GB MLC NAND
- Operating temperature: -40°C to +85°C
- SiP for extreme dust, water and ESD proof
- Hardware encryption (AES 256bit) and access protection
- Host-agnostic plug-and-play solution for protecting data recorded
- Optimized for long life cycle with high temperature mission profile
- Advanced power-off reliability technology

swissbit®

PS-66 DP

PS-66u DP

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 16GB - 64GB pSLC NAND (Standard & microSD)
- Supports Application Performance Class A1
- Operating temperature: -40°C to +85°C
- **CmReady: faster and easier access to software license management CodeMeter by Wibu-Systems**
- Hardware encryption (AES 256bit) and access protection
- Plug-and-play solution for protecting IP, license and software
- Optimized for long life cycle that requires superior data retention because of high temperature mission profile
- Advanced power-off reliability technology

WIBU SYSTEMS

1040-03-106

1041-03-501

CodeMeter Cards SDHC™ UHS-I & microSDHC™ UHS-I Memory Card UHS Speed Class 1

- Capacities: 4GB to 16GB SLC NAND (Standard SD) 8GB to 32GB MLC NAND (microSD)
- Operating Temperature: -40°C to +85°C
- Proven power fail safety, SMART
- Sophisticated wear leveling & bad block management
- Full speed AES mass storage encryption
- Infineon SLM97 crypto controller, CC EAL5+
- Ideal for IP Protection, Licensing & Security in embedded/IoT/PC/cloud environments

High Endurance

amp inc
Memory and Storage Solutions for today's world
Accelerated Memory Production, Inc.

E80b

E80bm

SD/SDHC™ UHS-I & microSD/SDHC™ UHS-I Memory Card UHS Speed Class 3

- Capacities: 128MB-32GB SLC
- Performance: 95MB/s read, 85MB/s write
- Industrial Grade: -40 to +85 °C
- Commercial Grade: -25 to +85 °C
- 50,000 P/E cycles
- 533 TBW
- BCH
- Auto-Read Refresh
- Power Loss Protection
- Advanced Wear Leveling
- SMART Health Monitor
- Water proof, Dust proof and ESD resistant
- 30u gold
- Locked BOM

DELKIN DEVICES

D330

U331C

SD/SDHC™ UHS-I & microSD/SDHC™ UHS-I Memory Card UHS Speed Class 1, Video Speed Class 10

- Capacities: 128MB-32GB SLC (Standard SD) 128MB- 4GB SLC (microSD)
- Operating Temperature: -40°C to +85°C
- Storage Temperature: -40°C to +85°C
- Sophisticated Wear Leveling & Bad Block Management
- Auto-Read Refresh
- SMART / Dashboard
- Locked BOM

Greenliant®

GLS93SP064G1

GLS93MP064G1

ArmourDrive EX Series SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card USH Speed Class 3, Video Speed Class 30

- Capacities: 8GB - 64GB
- Performance: 95MB/s read, 85MB/s write
- Operating temperature: -40°C to +85°C
- Storage temperature: -40°C to +85°C
- Endurance: 30K P/E cycles
- Reliability: MTBF more than 3 million hours
- Waterproof: water depth up to 1000mm
- Shock resistant: 1500G
- Vibration resistant: 20G
- Lifespan monitoring: SMART commands

Kingston DIGITAL

SDIT

SDCIT2

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 8GB - 64GB pSLC NAND
- Performance: 100MB/s read, 80MB/s write
- A1 (Application Performance Class 1)
- Operating Temperature: -40°C to +85°C
- Endurance: 30K P/E Cycles, up to 1920 TBW
- Bad Block Management, Power Failure Protection, Wear Leveling & Auto-Read Refresh
- Health Monitor Functionality
- Waterproof, Temperature Proof and X-Ray Proof

TEAMGROUP Team INDUSTRIAL

D700-W iSD(MLC)

D700-W MSD(MLC)

SD/SDHC/SDXC™ UHS-I & microSD/SDHC/SDXC™ UHS-I Memory Card UHS Speed Class 1

- Capacities: D900-W: 256MB - 32GB (SLC) D700-W: 8GB - 256GB (MLC)
- Performance: 95MB/s read, 70MB/s write
- Operating Temperature: -40°C to +85°C (AEC Q100-3 Grade)
- Storage temperature: -50°C to +95°C
- Endurance: 60~100K P/E cycle(SLC), 3K P/E cycle(MLC)
- Shock resistant: 1500G, vibration resistant: 20G
- SMART function support
- Power failure protection
- Low power consumption

EmBestor

EA35DS-032G

ET1288 with SLC SDHC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacity: 4GB -32GB SLC NAND
- Performance: 90MB/s read, 70MB/s write
- Endurance: 100K P/E Cycle
- Adaptive Wear Leveling and Read disturbance management
- Management of sudden power-fails
- Security Hidden Function to ensure data security
- S.M.A.R.T life monitor to check and report the health condition of storage
- SIP (System in package) module assembly technology for higher water and dust protection

HAGIWARA Solutions

D520H3TVN256G00LI

D520H3TVM256G00LI

D520H SDXC™ UHS-I & microSDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 64GB - 256GB 3D NAND TLC
- Performance: 90MB/s read
- Operating Temperature: -40℃ to +85℃
- Storage Temperature: -40℃ to +85℃
- Endurance: 3K P/E Cycles
- Application Performance Class 2
- Active Refresh Technology
- Sudden Power Off Recovery
- LiveMonitorPlus (Health Monitor)
- Locked BOM
- Made in Japan

swissbit®

S-600

S-600u

SD/SDHC™ UHS-I & microSD/SDHC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities: 512MB - 32GB True SLC NAND
- Performance: 95MB/s read, 55MB/s write
- A2 (Application Performance Class 2)
- Operating Temperature: -40°C to +85°C
- SiP for extreme dust, water and ESD proof
- Optimized for mission critical temperature and ambient conditions
- Optimized for high read/write traffic for demanding industrial applications.
- Optimized for long life cycle that requires superior data retention because of high temperature mission profile
- Advanced power-off reliability technology

Virtium
Solid State Storage and Memory

VGTS6XI016G

microSDHC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30
True Industrial-Grade SD Solutions

- Capacities: 16GB - 32GB
- Operating Temperature: -40°C to +85°C
- Ultra-high endurance SLC/pSLC NAND
- Integrated power-fail protection
- Up to 15Kv ESD (air, operating)
- SMART reporting
- 5+ year product availability

Western Digital.

SD5DAF4-512G-I

SD5DQAF4-256G-I

SDHC/SDXC™ UHS-I & microSDHC/SDXC™ UHS-I Memory Card UHS Speed Class 3, Video Speed Class 30

- Capacities:
  - 16GB - 512GB (IX LD342)
  - 16GB - 256GB (IX QD342)
- Operating Temperature: –25°C to +85°C
- Endurance: up to 3K P/E cycles
- Advanced firmware for power immunity, auto/manual refresh
- ECC and wear-leveling,
- Remote Diagnostic report
- Host Lock