

ORANGE series –RUGGED MILITARY-grade SSDs

RUGGED. HIGH ENDURANCE. SECURE.

MEMKOR ORANGE series SSDs are engineered for mission-critical defense, aerospace, and industrial applications that demand high write endurance, advanced data security, and reliable operation in harsh environments. Combining rugged mechanical design with hardware-based encryption, the ORANGE series protects critical data while supporting sustained-write workloads under demanding conditions.

Available in capacities from 128GB to 8TB, ORANGE series SSDs feature AES-256 hardware encryption, TCG OPAL 2.0 compliance, multiple data elimination methods, and write protection. Ruggedization options include industrial-temperature support, conformal coating, and rugged SATA connectors, with configurations supporting operation from -40°C to +85°C, vibration up to 16.3gRMS, and 50G shock.

For applications requiring additional manufacturing assurance, customers may specify PCBs manufactured to IPC-6012 Class 3 requirements and assemblies meeting IPC-A-610 Class 3 acceptance criteria.

VALUES

- Reliability in harsh operating environments
- Security to protect sensitive data and ensure compliance
- Performance enabling rapid access to mission-critical information and real-time data processing
- Longevity and endurance for extended lifecycle for write-intensive applications
- MEMKOR Technical support
- Lower power consumption, reducing dissipated heat
- HW triggered Secure Erase | Write Protect
- Sudden Power Loss Safeguards
- End-to-end Data Protection
- End-to-end operation monitoring and recording
- Designed and built for reliability and longevity
- Locked BOM
- Custom firmware and features available
- 1 year/TBW limited warranty

APPLICATIONS

- Surveillance and Reconnaissance
- High speed data recording | Moving Map
- Command and Control Centers
- Cybersecurity Applications, Data-At-Rest
- Military applications including airborne, ground vehicle, wearable



KEY FEATURES

• HIGH RUGGEDIZATION

- Operates up to 50G 11ms shock
- Operates up to 16.3 GRMS vibration

• HIGH PERFORMANCE:

- Up to PCIe Gen4
- Up to SATA III

• HIGH CAPACITY:

- Up to 1.3TB in 60K PEC NAND (I-temp)
- Up to 8TB in 3K PEC NAND (I-temp)

• HIGH WRITE ENDURANCE:

- Up to 60K PEC for longer SSD lifespan

• OPTIONAL ADDITIONAL RUGGEDIZATION:

- Rugged SATA Connectors
 - Amphenol HiVibe
 - Smiths Connector Nebula
- Conformal Coating
- IPC Class 3 build

• SECURITY / DATA PROTECTION:

- AES 256 Encryption + TCG OPAL 2.0
- Optional Hardware Secure Erase (SE)
- Optional Hardware Write Protect (WP)

• CUSTOMIZATION

- Custom pintouts available
- Custom form factors available

• LOCKED-BOM

- Locked Bill-of-Materials available

ABOUT ORANGE SERIES

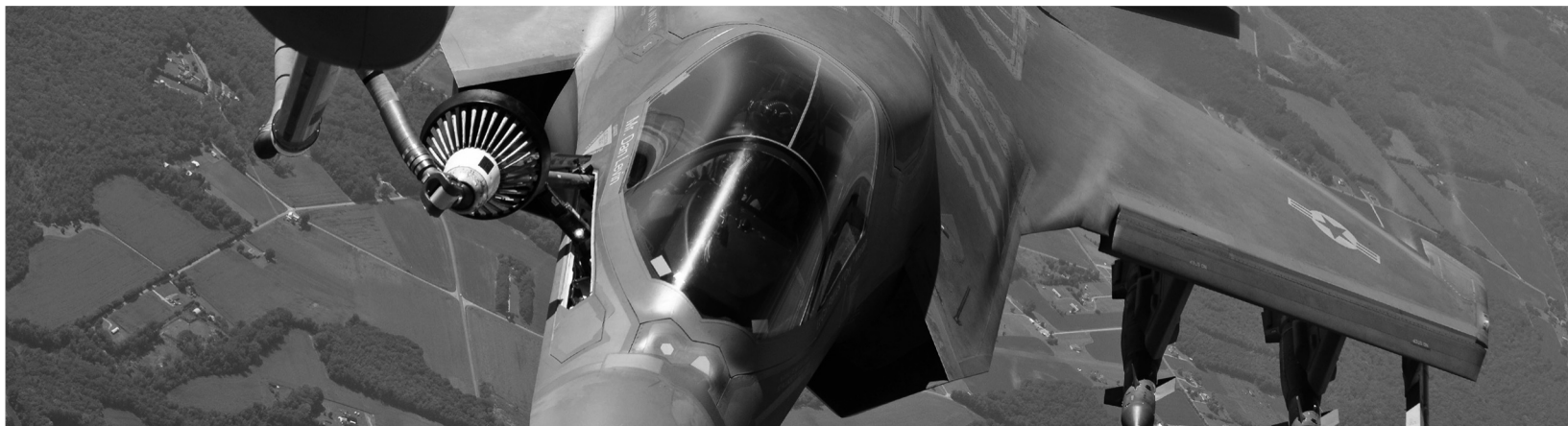
MEMKORs ORANGE series SSDs seamlessly integrate advanced security and ruggedization strategies into their design. Engineered for resilience, ORANGE series SSDs excel in write-intensive applications, where performance, capacity, and high endurance are required. MEMKOR ORANGE series SSDs stand as the epitome of reliability, versatility, and security, redefining military-grade storage solutions with its cutting-edge design and proven performance.

MEMKOR—PART OF YOUR PROJECT

- We will support you throughout the design and product lifecycle
- We offer Locked BOM Management
- We offer Obsolescence Management

MEMKOR ORANGE SERIES SSD SPECIFICATION

Form Factors	• 2.5" / U.2 • M.2 2230 2242 2280 22110 • mSATA • 1.8"
Supported Interfaces	• Up to PCIe Gen4 • SATA III • PATA (for legacy applications)
Data Security	• Hardware Encryption AES 256 TCG OPAL
Maximum Capacity	• Up to 1.3TB in 60K PEC • Up to 8TB in 3K PEC (I-temp)
Maximum Data Throughput	• SATA: Up to 550 MB/s read Up to 550 MB/s write • PCIe: Up to 6,450 MB/s read Up to 6,050 MB/s write
Operating Temperature Range	• I-Temp: -40°C to 85°C
Storage Temperature Range	• -40°C to 85°C
Vibration/Shock	• Ask MEMKOR
ECC	• LDPC
Data Reliability	• Uncorrectable bit error rate (UBER): less than 10^{-16}
Endurance	• Ask MEMKOR. Up to 60K PEC Write Endurance NAND
Power	• Ask MEMKOR (depends on Form Factor, Interface, Capacity)
Component Reliability	• MTBF 2,000,000 hours
Environmental Protection	• Standard conformal coating and low CTW underfill
Health Monitoring	• S.M.A.R.T. system health reporting • End-to-end system performance monitoring and active management
Warranty	• 1-year limited warranty



DISCLAIMER: MEMKOR, Inc. reserves the right to change products, specifications and information without notice.

MEMKOR® is an American engineering company dedicated to providing flash solid state storage solutions for Defense applications. We create secure, reliable, robust, and innovative solutions with rich feature sets, tailored, as required, to meet your technology investment objectives. We are dedicated to delivering on our promises. We simply believe that your satisfaction enables the continuous success of our company.



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