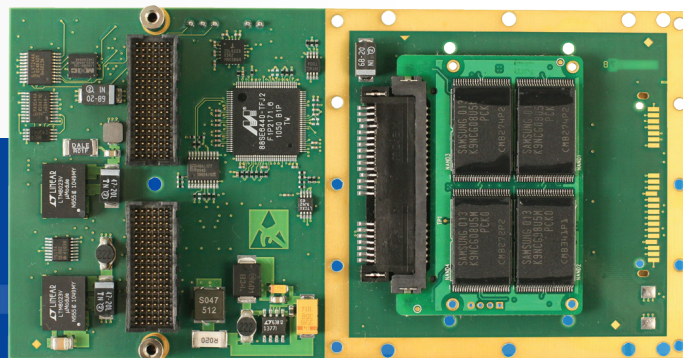


BuiltSAFE™ FDISK-8432

Flash Disk Storage XMC Mezzanine

- Up to 256 GB high-throughput flash disk storage
- Board Management Controller (BMC)
- Conduction-Cooled



Mercury's BuiltSAFE™ products bring the highest level of flight safety assurance to aerospace and defense applications. Our proven, reusable Design Assurance Level (DAL) certified artifacts for mission computing, avionics, networking and datalink comms processing save time and cost while decreasing risk.

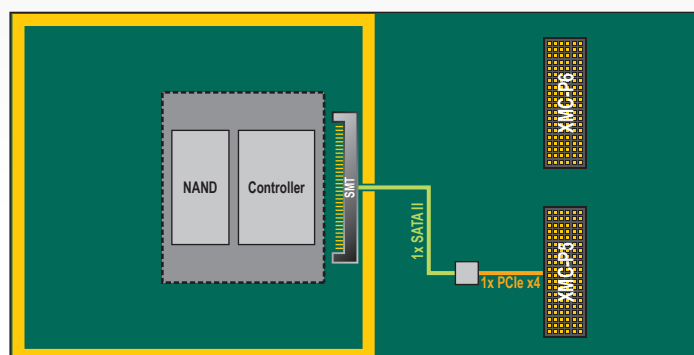
The BuiltSAFE FDISK-8432 is a conduction-cooled Flash Disk XMC for embedded applications. It is specifically designed for the most demanding applications, combining high-performance mass data storage and low power consumption within harsh environments.

The FDISK-8432 is a controller-based solid state storage solution, optimized for low-latency and high throughput. The ECC error correction and the wear leveling increases the reliability and device lifetime, while parallel processing of accesses to NAND Flash improves performance.

The PCIe interface is implemented in a controller which also provides built-in monitoring and test facilities. The controller performs bulk transfers without loading the host CPU. The embedded flash file system is accessible through standard I/O calls in Linux® or Vx-Works®653.

BuiltSAFE for Avionics

Mercury's expertise and experience in safety certifiable solutions has been built on successful execution of dozens of programs over three decades. This domain knowledge is the foundation of our BuiltSAFE portfolio of open architecture modules, systems and software for avionics, communications, video servers, and mission computing.



Mercury Systems is a leading commercial provider of secure sensor and mission processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.



Technical Specifications

Compliance

Conduction-cooled XMC (VITA 42)

Power Consumption

Minimum	typical	maximum	units
-	6.9	6.9	Watts

Storage

64/128/256 GB Flash EPROM (NAND) with ECC protection

Embedded flash file system

Embedded wear leveling

Switches/Bridges

1x PCIe x4 to SATA II bridge

High-Speed Links/Connections

1x PCIe x4 on XMC-P5 (VITA 42.3)

1x SATA II on XMC-P6 to SMT connector

1x SATA II on SMT connector

Connectors

1x onboard SMT connectors

Board Management Controller

Board start-up and voltage monitoring

Temperature monitoring (thermal sensors on critical positions)

Ruggedization Levels

Level	Description	Cooling Type	Operating Temperature	Vibration (1 hour per axis)	Operating Shocks
C3	Rugged CC	Conduction	-40°C to 70°C [CC3]	5-100 Hz: increase at 3 dB/octave, 100-1000 Hz: 0.1 g ² /Hz, 1000-2000Hz: decrease at 6 dB/octave	40g, 11ms saw-tooth, three axes

Environmental Specifications

Condition	Limits, standards	Comments
Non-operating temperature	-55°C to 105°C [C4]	
Humidity	95%	
Altitude	-1,500 to 60,000 feet	May require conformal coating
Fungus resistance	No nutrient materials	
Workmanship	IPC-A-160 class 3	
Soldering	IPC J-STD-001 class 3	
PCB Manufacturing	IPC-A-600 class 3	
Conformal coating	IPC-CC-830	Optional
Materials	REACH compliant	ROHS variants as an option
Flammability	UL 94 Class V-0	
Quality	EN 9100:2008	

Product Ordering

FDISK-8432BA	Conduction-Cooled Flash Disk Storage XMC (64 GB)
FDISK-8432CA	Conduction-Cooled Flash Disk Storage XMC (128 GB)
FDISK-8432DA	Conduction-Cooled Flash Disk Storage XMC (256 GB)
DGW-8432	VxWorks Driver for FDISK-8432
DGX-8432	Linux Toolbox for FDISK-8432
DG6-8432	VxWorks653 Driver for FDISK-8432

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INNOVATION THAT MATTERS™

MERCURY MISSION SYSTEMS INTERNATIONAL S.A.
Avenue Eugène-Lance 38, PO Box 584
CH-1212 Grand Lancy 1 • Geneva – Switzerland
+41 (0)22 884 51 00

CORPORATE HEADQUARTERS

50 Minuteman Road • Andover, MA 01810 USA
(978) 967-1401 • (866) 627-6951 • Fax (978) 256-3599