

## ENTERPRISE B-SERIES

### BA50P HIGH-QUALITY SATA BOOT DRIVE FOR LEGACY SYSTEMS AND SYSTEM UPGRADES

MP-BA50P is a high-performance storage device that serves as a server or workstation boot drive. It was designed specifically for this purpose, offering faster boot times, improved system responsiveness, and overall enhanced performance compared to traditional hard disk drives (HDDs).

#### KEY FEATURES

Interface	SATA III
NAND Flash	3D TLC
DWPD	1
UBER	<1 sector per 10 bits
Operating Temperature	0°C - 70°C
Non-Operating Temperature	-40°C - 85°C
MTBF (million years)	2



## PRODUCT FEATURES

### Reliability

The MP-BA50P SSD leverages MiPhi's 4th generation LDPC ECC engine which can correct up to 160 bits for each 2048 byte block through the hard decoder, and up to 400 bits for each 2048 byte block using the soft decoder. This ensures customers' data is protected throughout the life of the SSD.

### Power Loss Protection

The MP-BA50P printed circuit board has extra capacitors (pFail) installed to continue to provide power to the SSD in the event of a sudden power loss. The pFail capacitors provide the SSD with the remaining power to write any cached data to the NAND storage to prevent data loss.

### SATA Compatibility

The MP-BA50P SSD is plug wise compatible with SATA backplanes, making it easy to install in existing backplanes as new storage, or to replace HDDs with a performance upgrade.

### End-to-End Data Path Protection

From the entry through PHY to the access of NAND flash memory, data packages go through a series of encryption/decryption using various coding schemes, including but not limited to AES, CRC, and SEDEC, to gain a multi-layered protection over the course of delivery.

# MP-BA50P Specifications

M.2 2280				
	Capacity	240GB	480GB	960GB
Performance	Seq Read	530 MB/s	530 MB/s	530 MB/s
	Seq Write	290 MB/s	480 MB/s	500 MB/s
	Random Read	60K IOPS	90K IOPS	98K IOPS
	Random Write	10K IOPS	15K IOPS	30K IOPS
Power Consumption	Max	2.2 W	2.8 W	2.8 W
	Idle	1.2 W	1.2 W	1.3 W
Latency	Read Latency	120 us	120us	120 us
	Write Latency	80 us	50 us	30 us

KEY FEATURES	
Enterprise Features Support List: <ul style="list-style-type: none"><li>• Namespace</li><li>• Dual port</li><li>• Reservation</li><li>• Metadata protection</li><li>• Powerloss protection</li><li>• Hardware AES-XTS 256-bit encryption</li><li>• Support SMBbus</li></ul>	Compliance Support List <ul style="list-style-type: none"><li>• SATA III</li><li>• Management Interface</li><li>• Rev 1.1 TCG Opal 2.0(6)</li><li>• Sanitize(6)</li></ul>

(1) 1 GB = 1,000,000,000 bytes.  
(2) Sequential Performance is based on FIO on Linux, 128K, with QD=32, 1 worker, and test drive set as secondary.  
(3) Random Performance is based on FIO on Linux, 4K data size, QD=32, 1 worker, 4K aligned.  
(4) Power consumption is measured during the sequential read/write and random read/write operations performed by iometer with the conditions described in (2)(3).  
(5) The results of DWPD are obtained in compliance with JESD219A Standards.



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# MP-BA50P Specifications

2.5"				
	Capacity	240GB	480GB	960GB
Performance	Seq Read	530 MB/s	530 MB/s	530 MB/s
	Seq Write	290 MB/s	480 MB/s	500 MB/s
	Random Read	60K IOPS	90K IOPS	98K IOPS
	Random Write	10K IOPS	15K IOPS	30K IOPS
Power Consumption	Max	2.3 W	2.8 W	3.3 W
	Idle	1.2 W	1.3 W	1.3 W
Latency	Read Latency	120 us	120us	120 us
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