



MEMTECH

AT1830 Mustang 1.8" IDE Solid State Drive

- 64Mbyte to 8 Gbyte uncompressed capacity
- Full -40°C to +85°C industrial temperature range
- Compact 1.8" drive form factor with 44 pin, 2mm IDE interface
- 32-bit ECC for exceptional data reliability
- 3.3 to 5 volt, low power operation
- Completely solid state - no moving parts
- 1000G operating shock
- 15G operating vibration
- 4.0 Mbyte/sec sustained Read throughput
- 3.5 Mbyte/sec sustained Write throughput
- 10 year data integrity



The AT1830 Mustang is the largest capacity 1.8" IDE drive available today. With a current maximum capacity of 8 Gbyte in an extremely compact 1.8" drive form-factor, it delivers exceptional value for its features. Future capacity, as new, higher capacity NAND EEPROM become available, is 16 Gbytes. It is completely solid state, with no moving parts. This contributes to the unit's exceptional ruggedness and wide operating temperature range; with no moving parts, there is no mechanism for mechanical wear-out. Being 100% IDE compatible, no special drivers or flash file managers are required. It is a virtual drop in replacement for standard rotating media.

The AT1830 employs sector erasable NAND E²PROMs (Flash) to deliver up to 8 Gbytes of uncompressed, non-volatile solid state storage in an extremely small, rugged form factor. Raw data throughput is fast at a sustained 4.0 Mbytes per seconds for reads and 3.5 Mbytes/second for writes.

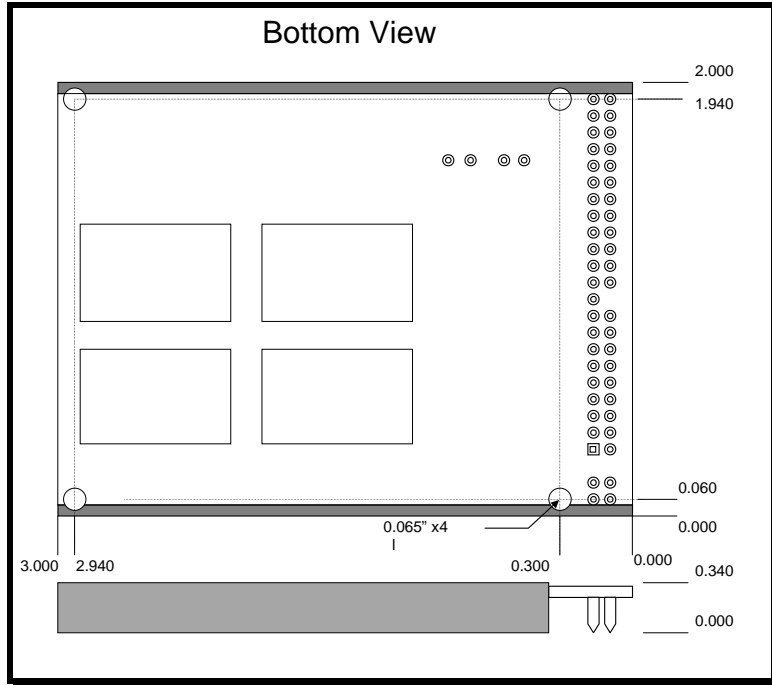
The drive is implemented using a custom IDE Flash controller with an integrated error detection and correction mechanism and proprietary remapping and wear-leveling technology to greatly improve data reliability. It's small form factor and low-power operation make the AT1830 ideal for hand-held, portable or embedded applications requiring up to 8 Gbytes of data storage. Advanced PIO modes and multi sector transfer modes are supported, as well as LBA addressing.

The drive is available in a number of standard capacities from 64 Mbytes to 8 Gbytes. Please contact the factory for specific size availability.

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Ver 1.1

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Each drive is fully tested under environmental and voltage extremes to guarantee data integrity under even the harshest conditions.

The Mustang may be mounted in any orientation. Four mounting holes with an internal diameter of 0.065" are available. External standoffs may be required for proper mounting of the drive.

SPECIFICATIONS*

Interface

ATA Compatibility	X3T10 2008D, Rev. 6
IDE Drive Number	Drive 0 or 1
Current Capacity	2 Gbytes
Physical Capacity	16 Gbytes
Physical Sector Size	512 bytes

Performance

Random Seek	0.4mS
Read Transfer Rate	4.0 Mbytes/sec sustained
Write Transfer Rate	3.5 Mbytes/sec sustained
BIOS Setup	PIO Mode 4, no DMA

Environmental

Operating Temperature Range	
Commercial	0° to +70°C
Extended	-20° to +75°C
Industrial	-40° to +85°C
Storage Temperature	-55° to +125°C
Shock - operating	1000G, 0.5ms, half sine
Vibration - operating	15G Random, 5-2000Hz
Airflow	None required
Humidity	5% to 95% NC
Safety	CSA File LR114427
EMC	EN55022 and EN50082-1

Reliability

Endurance	Application Specific
8Kbytes/30 sec	3.2 million hours
Error Rate	<1 in 10 ¹⁵ bits read
ECC	24-bit

Power Requirements

Voltage	5V +/- 5%
Current (rms)	AT1830-1024
Sleep	5 mA
Read	30 mA
Write	35 mA
Peak	150 mA

Mechanical

Length	3.00 inches (76.2mm)
Width	2.00 inches (50.8 mm)
Height	0.34 inches (8.6mm)
Cable Interface	44-pin, 2mm
Max. Cable Length	18 inches (457 mm)
Rec. Cable Length	12 inches (305 mm)
Weight	
(128 Mbytes)	1.0 oz (28 g)
(2 Gbytes)	1.3 oz (37 g)

*Specifications subject to change without notice.

