

AT3550 Wolverine

3.5" IDE Solid State Drive



- 12 Gbyte capacity under 16mm (0.63")
- 60 Gbyte maximum capacity
- Full -55°C to +125°C military temperature range
- 3.5" drive low profile form-factor
- UDMA-66 compliant IDE interface
- 16 byte CRC/ECC and Active Remap™ for exceptional data reliability
- Kicker™ Hold Up Circuit
- Active Remap™ Data Reliability Feature
- 5 volt, low power operation
- Completely solid state - no moving parts
- 2000G operating shock
- 20G operating vibration
- 0.1 millisecond random access time
- 26 Mbyte/sec cached Read performance
- 20 Mbyte/sec cached Write performance
- 8 year product warranty
- 8 million erase/write cycle endurance



The AT3550 solid-state flash drive is an UDMA-66 compliant IDE memory module offered in an extremely low profile 3.5 inch drive form-factor. The drive 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 to interface the drive. It is a virtual drop in replacement for standard rotating media.

The primary storage media in the drive is sector-erasable NAND E²PROMs (Flash). Using these devices, Memtech is able to deliver up to 60 Gbytes of uncompressed, non-volatile solid-state storage in an extremely small, rugged form-factor. The access time for the drive is under 0.1 millisecond, which permits thousands of transactions to occur per second. Cached read data performance is 26 Mbytes/second, and cached write performance is 20 Mbytes/second.

The Kicker™ Hold Up Circuit, using ultra-cap technology, meets all the requirements for a robust and reliable solution. Ultra-caps are new, high-energy capacitors that offer an extremely low ESR, wide operating temperature and small footprint. Unlike batteries, they offer a much more robust form of energy storage, with a wider operating temperature and longer life. Combined with some innovative firmware control, back-EMF and surge current suppression and power monitoring, the Kicker™ virtually eliminates the chance of corrupted data in the flash array due to a power loss.

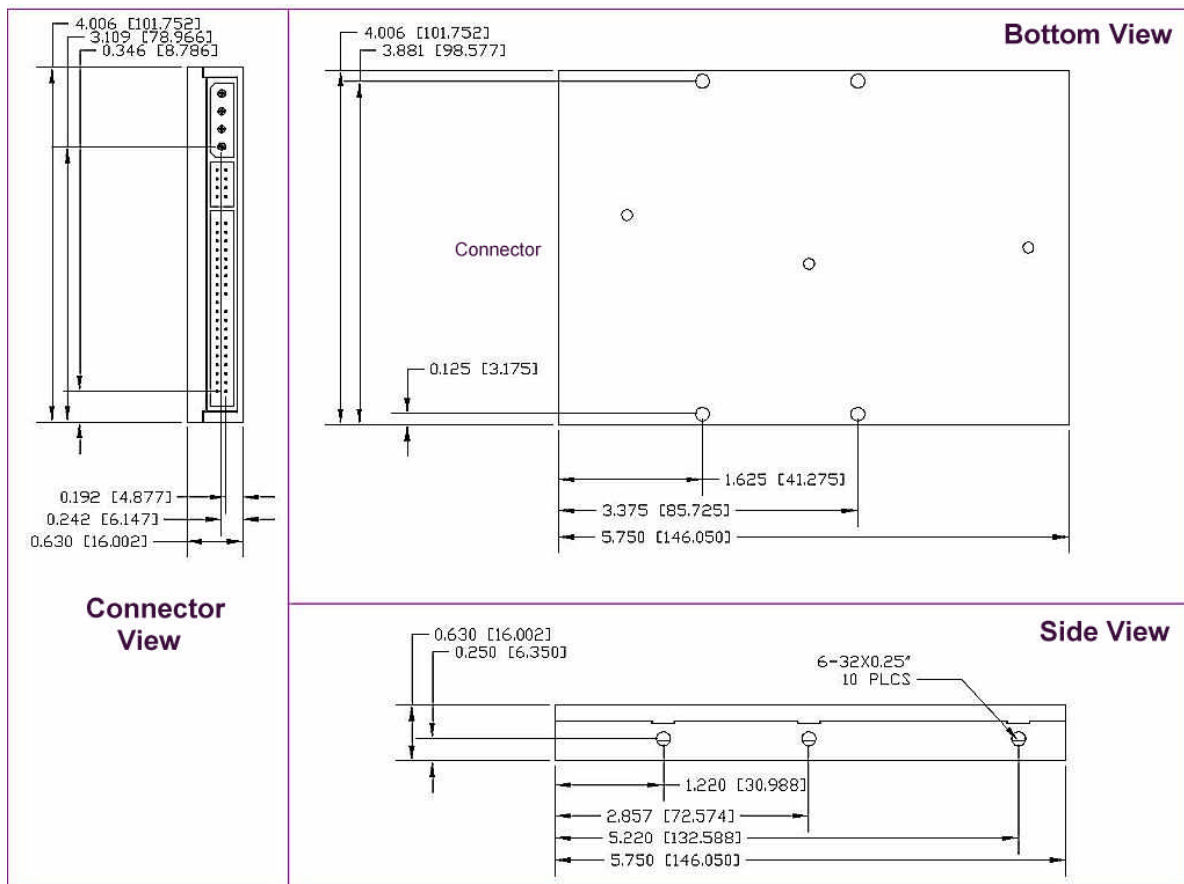


The interface is implemented using a commercially available UDMA-66 compliant IDE controller with a large buffer and a 16-byte combination CRC/ECC error detection and on-the-fly correction mechanism that greatly improves data reliability. The CRC/ECC circuitry, in conjunction with Memtech's proprietary Active Remap™ technology, makes for a virtually bulletproof medium for data storage. The drive supports advanced PIO, DMA and UDMA transfer modes, multi-sector transfers, and LBA addressing.

The AT3550 is available now in standard capacities ranging from 2 to 60 Gbytes. The AT3550 low profile solution of 1 to 12 Gbytes capacities is available in a 16mm height and up to 20 Gbytes capacity within a 20mm height restriction.

Every drive is subjected to Memtech's EnduroTest™ in which it is fully tested under environmental and voltage extremes to guarantee data integrity under even the harshest conditions, and to ensure full functionality out of the box.

The AT3550 may be mounted in any orientation. Eight mounting holes are available: four on the bottom and four on the sides. All holes are tapped 6-32 with a maximum penetration of 0.25 inches.





SPECIFICATIONS*

Interface

IDE Compatibility	ATA-6 compliant
IDE Drive Number	Drive 0 or 1
Physical Capacity	2 to 60 Gbytes
Physical Sector Size	512 bytes

Performance

Average Access	0.1 ms
Track/Track Access	0.1 ms
Onboard Buffer	16 Mbyte
Burst Transfers	66 Mbytes/sec
Cached Read Rate	26 Mbytes/sec
Cached Write Rate	20 Mbytes/sec

Environmental

Operating Temperature Range	
Commercial	0° to +70°C
Extended	-20° to +75°C
Industrial	-40° to +85°C
Military	-55° to +125°C
Storage Temperature	-55° to +125°C
Shock - operating	2000G, half sine 0.3ms
Vibration - operating	20G Random
Altitude	130,000 feet
Airflow	None required
Humidity	5% to 95% NC
Safety	CSA File LR114427
EMC	EN55022 and EN50082-1

Reliability

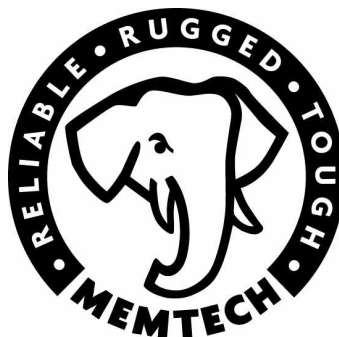
Kicker™ Hold Up Circuit	
Active Remap™ Data Reliability Feature	
Endurance	
erase/write endurance	8 million cycles
read endurance	unlimited
data Integrity	10 years
ECC	96-bit Reed-Solomon

Power Requirements

Voltage	5V +/- 5%
Current	12 Gbyte model
Idle	200 mA
Read	350 mA
Write	320 mA

Mechanical

Length	5.75" (100 mm)
Width	4.00" (70 mm)
Height	
1 GB to 12 GB	0.63" (16 mm)
Cable Interface	40-pin, 0.1inch
Weight	
12 GB	TBD



*Specifications subject to change without notice.