



PRELIMINARY SPECIFICATIONS

# SATA 2.5" Series

## E2A3GL

**When Size and Performance Matter**  
Enhanced Productivity and System Performance



### Ideal for Storage Applications in:

- Enterprise Systems
- Desktop and Mobile Computing
- Database and OLTP Applications
- Business Intelligence/Decision Support
- Video-On-Demand
- Military and Aerospace
- Imaging Applications
- Industrial Automation
- Real-Time Data Acquisition
- Control and Instrumentation

### E-Disk® Altima™ SATA 2.5-inch Series

The future of storage is solid state, and BiTMICRO Networks, Inc. brings you the most advanced solid state disk (SSD) solution with the E-Disk® Altima™ series. Powered by BiTMICRO's proprietary "Enhanced Datamover and Storage Accelerator" (EDSA™) flash I/O controller and "Logical UNifier of Extensive Transfer Arrays" (LUNETATM) memory flash interface ASICs, E-Disk® Altima™ SSDs utilize high-density flash memory chips to create massive storage capacities in standard disk drive form factors. What's more, flash memory-based E-Disk® Altima™ SSDs boost system performance by eliminating seek time and latency for faster I/O and sustained transfer rates. With no moving parts, E-Disk® Altima™ SSDs set the bar for storage reliability, durability and endurance in all types of operating environments.

BiTMICRO Networks E-Disk® Altima™ SATA products offer optimum solution to address ever growing storage capacity requirements and performance demands of today's computing applications. It is designed without device driver requisites, making it easy to install and operate. Armed with patented FlashBus™ technology, E-Disk® Altima™ SATA offers random I/O rates of up to 20,000/sec, 300 MB/sec burst rate, sustained rates of up to 100 MB/sec, and storage capacities of up to 416 GB.

### Increased High Speed Performance

- 300 MB/sec Burst Rate
- Up to 100 MB/sec Sustained Rate
- Up to 20,000 IOPS
- 30 to 100 µsec Access Time

### Highest Storage Capacities

- 2.5-inch: 8 to 416 GB\*

*\*Up to 64 GB at 9.5 mm height*

### Industry Standard SATA Interface

- No Device Driver Required
- Completely Bootable
- SATA 3.0 Gbps Support
- Hot Plug Support
- Spread Spectrum Clocking
- Link Power Management

### Unparalleled Operational Capabilities

- Pure Solid State/Non-Volatile
- 1,500 Gs Operating Shock
- -40 to +85°C
- 2 Million Hours MTBF
- 120,000 ft Altitude

### Data Security Features

- DataSentinel
- PowerGuard®
- securErase®
- Write Protect

### Compliance

- EMI: CE, FCC, AS/NZS
- Safety: TUV, UL
- EU RoHS 2002/95/EC
- China RoHS SJ/T 11363-2006

**SPECIFICATIONS FOR  SATA 2.5" SERIES**  
**Flash Disk and Solid State Disk Storage Solutions**

**Performance Specifications:**

Access Time	30 to 100 µsec
Burst Rate	300 MB/sec
Sustained Rate	Up to 100 MB/sec
I/O Operations per Second	Up to 20,000 IOPS
Fully Associative Cache	Up to 64 MB

**Environmental Specifications:**

Operating Temperature	Commercial	0 to 70 °C
	Industrial	-40 to +85 °C
Max Temperature Change Rate	3 C°/min	
Humidity	5 to 95% (Non-Condensing)	
Shock (Operating)	1,500 G	
Vibration (Operating)	16.4 G rms	
Altitude	-1,200 to 120,000 ft	
Airflow	None Required	

**Power Requirements:**

Input Voltage	5 VDC (±5%)	
Power Consumption	Write	TBD
	Read	TBD
	Idle	TBD

**Reliability:**

MTBF	>1.9 Million Hours at Bellcore Issue 6, Method I, Case 3
Bit Error Rate	<10 <sup>-27</sup>
Data Reliability	Built-in EDC/ECC Based on BCH Algorithm Corrects up to 9 Random Bit Errors per 528-Byte Block; Detects up to 10 Bit Errors
Data Integrity	10 years
Diagnostics	Built-In Power-Up Self Test Self-Monitoring Diagnostics Database

**Endurance:**

	8 GB	16 GB
Write Endurance	328 years @ 100 GB/day Erase/Write Cycles	657 years @ 100 GB/day Erase/Write Cycles
Read Endurance	Unlimited	

**Compatibility/Compliance:**

Serial ATA Compatibility	SATA Rev. 2.6
EMI Compliance	CE, FCC, AS/NZS Regulations
Safety Compliance	TUV and UL
Security Erase Compliance	NISPOM DoD 5220.22-M, NSA 130-2, Air Force AFSSI 5020, Army 380-19, IRIG-106
RoHS Compliance	EU RoHS 2002/95/EC, China RoHS SJ/T 11363-2006

**Physical Specifications:**

Form Factor	2.5"	
Storage Capacity*	8 to 416 GB	
Dimension	Width	2.75 in (69.85 mm)
	Length	3.955 in (100.45 mm)
	Height	0.374 in (9.50 mm) to 0.999 in (25.38 mm)
Weight**	2.928 oz (83.00 gm) to 7.796 oz (221.00 gm)	
Mounting Considerations	HDD Industry Standard, All Orientations	
Connector	Device Serial Attachment Connector (SATA Rev. 2.6, 15-Feb-2007)	

\*1 GB = 1,024 MBytes; Up to 64 GB at 9.5 mm height

\*\*Weights are approximate

**Product Part Number:**

Part Number Options	E2A003G + XXXX + TGM + AC
XXXX: Capacity (GB) <i>Last digit denotes single decimal number</i> (e.g. 0080G = 8.0 GB, 4160G = 416.0 GB)	9.5 mm Height: 8, 16, 32, 64  >9.5 mm Height: 80, 160, 208, 288, 416
Y: Capacity Unit*	G: Gigabytes
T: Temperature	C: Commercial (0 to 70 °C) I: Industrial (-40 to +85 °C)
G: PowerGuard®	N: No PowerGuard® Option 1: Save Mode on Power Down 2: Erase Mode on Power Down 3: Standby Erase Mode on Power Down
M: Media Type	L: Large Block SLC NAND Flash
A: Casing	R: Rugged Casing
C: Coating	N: No Conformal Coating (Default) A: Acrylic Conformal Coating S: Silicone Conformal Coating
Example	<b>E2A003G0080GCNLRN</b>

\*1 GB = 1,024 MBytes

BitMICRO's product specifications and engineering development objectives are subject to change at anytime without prior notice. All information provided herein is provided for design comparison and reference purposes only.

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One gigabyte, or GB, equals 1,073,741,824 bytes when referring to solid state disk capacity. Unformatted capacity is approximately 10-15% less than advertised capacity due to space reserved for flash memory management purposes. Resulting usable storage capacity will vary based on various factors, such as type of operating system, file sizes, file formats, optional features, and application software.

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