



PRELIMINARY SPECIFICATIONS

**SATA 2.5"**  
**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 SSD**

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 300 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 usec Access Time

**Highest Storage Capacities**

- 2.5-inch: 4 to 300 GB\*

*\*Up to 20 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**

- EMC: FCC, AS/NZS, ICES, VCCI, EN55022, EN55024
- Safety: UL, CSA and EN
- EU RoHS 2002/95/EC
- China RoHS SJ/T 11363-2006

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

**Performance Specifications:**

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

\*150 MB/sec only at Industrial temperature

\*\*Based on Commercial temperature

**Environmental Specifications:**

<b>Operating Temperature</b>	<b>Commercial</b>	0 to 70 °C
	<b>Industrial</b>	-40 to +85 °C
<b>Non Operating Temperature</b>		-45 to +90 °C
<b>Max Temperature Change Rate</b>		3 C°/min
<b>Humidity</b>		5 to 95% (Non-Condensing)
<b>Shock (Operating)</b>		1,500 G
<b>Vibration (Operating)</b>		16.4 G rms
<b>Altitude</b>		-1,200 to 120,000 ft
<b>Airflow</b>		None Required

**Power Requirements:**

<b>Input Voltage</b>	5 VDC (±5%)	
<b>Power Consumption</b>	<b>Write</b>	TBD
	<b>Read</b>	TBD
	<b>Idle</b>	TBD

**Reliability:**

<b>MTBF</b>	>1.6 Million Hours at Telcordia Issue 1, Method I, Case 3
<b>Bit Error Rate</b>	<10 <sup>-27</sup>
<b>Data Reliability</b>	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
<b>Data Integrity</b>	10 years
<b>Diagnostics</b>	Built-In Power-Up Self Test Self-Monitoring Diagnostics Database

**Endurance:**

	<b>4 GB</b>	<b>8 GB</b>
<b>Write Endurance</b>	16.44 years @ 100 GB/day Erase/write Cycles	38.36 years @ 100 GB/day Erase/Write Cycles
<b>Read Endurance</b>	Unlimited	

**Compatibility/Compliance:**

<b>Serial ATA Compatibility</b>	SATA Rev. 2.6
<b>EMC Compliance</b>	ICES-003 Issue 4, February 7, 2004 Class A VCCI V-3/2008.04 and V-4/2007.04 Class A AS/NZS CISPR 22: 2006 Class A EN 55022: 2006 – Emissions EN 55024:2003 - Immunity
<b>Safety Compliance</b>	UL 60950 -1 CSA C22.2 No. 60950 -1 EN 60950 -1
<b>Security Erase Compliance</b>	NISPOM DoD 5220.22-M, NSA 130-2, Air Force AFSSI 5020, Army 380-19, IRIG-106
<b>RoHS Compliance</b>	EU RoHS 2002/95/EC, China RoHS SJ/T 11363-2006

**Physical Specifications:**

<b>Form Factor</b>	2.5"	
<b>Storage Capacity*</b>	4 to 300 GB	
<b>Dimension</b>	<b>Width</b>	2.75 in (69.85 mm)
	<b>Length</b>	3.955 in (100.45 mm)
	<b>Height**</b>	0.374 in (9.50 mm) to 0.999 in (25.38 mm)
<b>Weight**</b>	2.293 oz (65.00 gm) to 7.338 oz (208.02 gm)	
<b>Mounting Considerations</b>	HDD Industry Standard, All Orientations	
<b>Connector</b>	Device Serial Attachment Connector (SATA Rev. 2.6, 15-Feb-2007)	

\*1 GB = 1,024 MBytes; Up to 20 GB at 9.5 mm height

\*\*Heights and weights are approximate. Contact your Sales Representative for the specific configurations and tolerance levels.

**Product Part Number:**

<b>Part Number Options</b>	E2A003G + XXXXY + TGM + AC
XXXX: Capacity (GB) Last digit denotes single decimal number (e.g. 0080G = 8.0 GB, 3000G = 300.0 GB)	9.5 mm Height: 4, 8, 20  >9.5 mm Height: 56, 104, 116, 148, 208, 300
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. Formatted 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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