

Memory Modules

Flash Products

Display Products

Embedded Products

FEATURES

- 100% compatibility with IDE (PATA) Capacity Range 4GB to 32GB
- Low Power Dissipation
- Supports both 8 and 16 bit Data Register Transfers
- Supports up to PIO Mode 6, Multi-Word DMA 4 and Ultra DMA Mode 5
- Static and Dynamic Wear Leveling
- Robust Error Detection and Correction
- Industrial Grade: 0°C to 70°C (Standard)
- Industrial Temp: -40°C to +85°C (Optional)



1.8" Parallel ATA Solid State Drive



SMART's industrial grade, high-performance 1.8" PATA SSD product offering is specifically targeted at the needs of OEM markets such as networking, telecommunications and data communications applications. A high-density low-power (3.3V or 5V) solution, SMART's 1.8" PATA SSD products are a natural fit for mobile and embedded computing, medical, automotive and industrial applications.

Incorporating an industry standard low-profile zero insertion force (ZIF) connector, on-board error detection/correction algorithms and dynamic wear leveling techniques insure SMART's 1.8" PATA SSD product provides years of reliable operation over the life cycle. SMART further increases the reliability of its SSD product set by using only Single Level Cell (SLC) NAND Flash technology which betters comparable Multi Level Cell (MLC) technology by a factor of 10X in reliability and 2X in speed.

Specification Overview

Performance

- Maximum Performance
 - PIO
 - Read: 19 MB/s
 - Write: 14 MB/s
 - UDMA
 - Read: 45 MB/s
 - Write: 25 MB/s
- Host Interface Transfer Rate
 - Read: 16 MB/s
- Startup Times
 - Power up to Ready: < 200ms
- Command to DRQ
 - Read: < 200us
 - Write: < 45us

Reliability

- MTBF: > 2,500,000 hours
- Data Reliability: 1 in 10¹⁴ bits, read
- Data Retention: 10 years
- Endurance: >2,000,000 program/erase cycles

Power

- Input Voltage: 3.3V±5%
- Typical Consumption
 - Read: 80mA
 - Write: 70mA
 - Idle: 9mA

Environmental

- Shock: 50G max. @ 11ms
- Vibration: 15G peak to peak
- Operating temperature
 - Industrial Grade: 0°C to 70°C
 - Industrial Temp: -40°C to +85°C
- Storage temperature: -65°C to 150°C
- Humidity: 5% to 95%
- Altitude: up to 80,000 ft.

Physical

- Form Factor: 1.8"
- Length: 2.795 in. (71.00 mm)
- Width: 2.126 in. (54.00 mm)
- Thickness: 0.106 in. (2.74 mm)
- Low-profile industry standard ZIF connector

Ordering Information

Part numbers with enclosure

SMART Part Number	Chip Density	Physical Capacity	Sector Card	Head	Cylinder	Sector Track	Un-Formatted Capacity
SG9PAT1G4GSMEAx	16Gb	4GB	7,831,152	16	7,769	63	4,009,549,824
SG9PAT1G8GSMEBx	32Gb	8GB	15,596,784	16	15,538	63	7,985,553,408
SG9PAT1G16GSMEBx	32Gb	16GB	31,195,136	16	16,383*	63	15,971,909,632
SG9PAT1G32GSMEBx	32Gb	32GB	61,079,552	16	16,383*	63	31,272,730,624

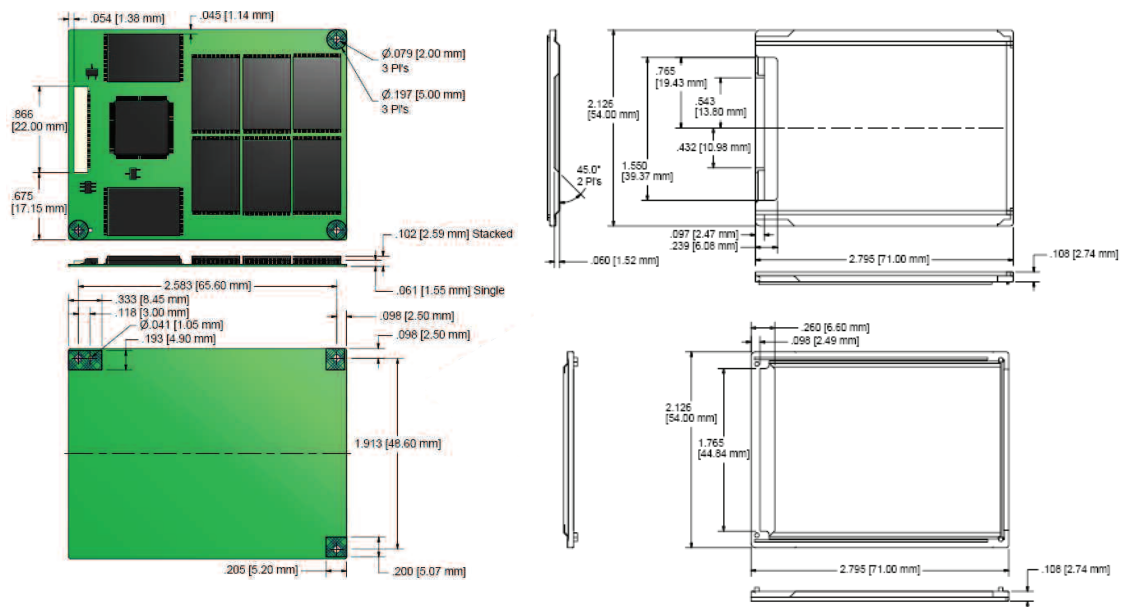
Part numbers without enclosure

SMART Part Number	Chip Density	Physical Capacity	Sector Card	Head	Cylinder	Sector Track	Un-Formatted Capacity
SG9PAU1G4GSMEAx	16Gb	4GB	7,831,152	16	7,769	63	4,009,549,824
SG9PAU1G8GSMEBx	32Gb	8GB	15,596,784	16	15,538	63	7,985,553,408
SG9PAU1G16GSMEBx	32Gb	16GB	31,195,136	16	16,383*	63	15,971,909,632
SG9PAU1G32GSMEBx	32Gb	32GB	61,079,552	16	16,383*	63	31,272,730,624

* Maximum Cylinder Value Supported

x = blank for Industrial Grade Range and "I" for Industrial Temp

XceedLite PATA SSD Diagram



Corporate

Tel: (+1) 800-956-7627
Tel: (+1) 510-623-1231
Fax: (+1) 510-623-1434
Email: info@smartm.com

USA

Tel: (+1) 978-805-2100
Fax: (+1) 978-805-2357
Email: customers@smartm.com

Europe

Phone: (+33) 1 43 54 58 80
Fax: (+33) 1 43 26 64 81
Email: euro.sales@smartm.com

Asia/Pacific

Phone: (+61) 89 330 3623
Fax: (+61) 89 330 5478
Email: infoasia@smartm.com

www.smartm.com

©2007. All rights reserved. The stylized "S" and "SMART" as well as "SMART Modular Technologies" are trademarks of SMART Modular Technologies. All other trademarks and registered trademarks are the property of their respective companies. 12.18.07/PATA/Rev.1

 **SMART**[®]
Modular Technologies