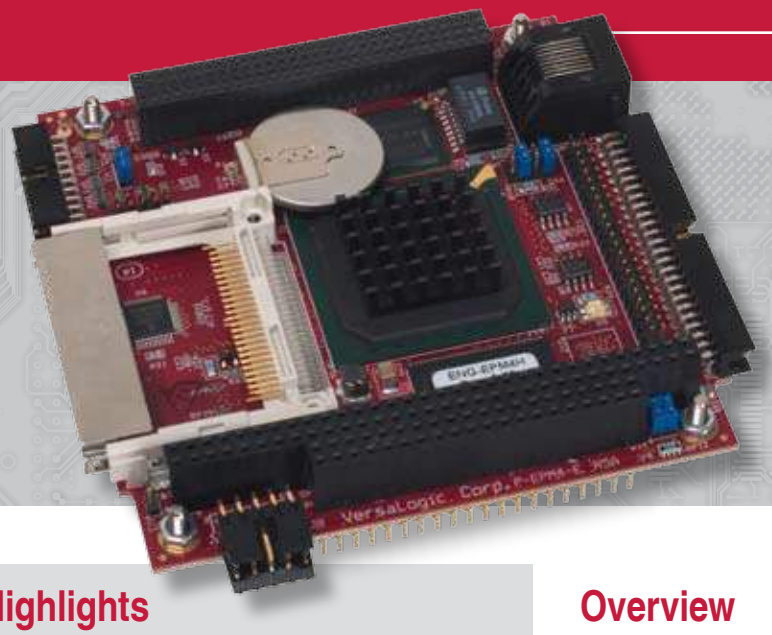
VersaLogic Corporation

LYNX

586 Class Single Board Computer



- Low power AMD Élan™ SC520 processor
- Soldered-on SDRAM
- Fanless operation
- Small PC/104-*Plus* form factor
- CompactFlash socket
- Extended temperature versions
- RoHS-compliant versions available

Highlights

PC/104-*Plus* Form Factor
Small Footprint. Multi-vendor support.

AMD SC520 Processor
586 class CPU.

64 MB SDRAM
Soldered-on RAM for high reliability.

Integrated I/O
4 COM ports (two RS-232 and two RS-422/485), 2 general purpose timers, IDE interface, LPT port, and PS/2 mouse / keyboard.

High-Speed Networking
10/100 Ethernet with on-board standard connector.

CompactFlash Socket
Removable storage device has no moving parts.

Fanless Operation
No fan / no moving parts required across full operating temperature.

TVS Protection
Enhanced ESD resistance.

Pass-through Connectors
Standard versions allow expansion modules above and below the board.

Watchdog Timer
Provides hardware-level safety control for application run-away conditions.

Embedded BIOS
OEM embedded features. Field-upgradeable. Customization available.

RoHS-Compliant Versions
Full Compliance with EU Directive 2002/95/EC for devices used in Europe.

Overview

The Lynx single board computer is a compact 586 class product with integrated networking and I/O. With its small size, low power consumption, ruggedness, on-board storage capabilities, high-speed networking and low cost, the Lynx is well-suited to applications such as industrial control, data monitoring and remote data collection. It can be used stand-alone as an Ethernet processor node, or with a PC/104 video module in situations requiring a display. It supports both ISA and PCI busses through the PC/104 and PC/104-*Plus* connectors. The pass-through connectors allow the Lynx to be mounted above or below a proprietary I/O board or device.

Details

The Lynx is based on the AMD Élan SC520 processor which operates at 133 MHz in the standard version and 100 MHz in the extended temperature versions. This complete SBC includes 64 MB of on-board system RAM, a compact flash interface, 10/100 Ethernet, IDE interface, 4 COM ports, LPT interface, floppy interface, and two counter/timers. A 2 MB battery-backed static (BBS) RAM option offers on-board non-volatile storage with no required drivers.

This PC/104-*Plus* single board computer is an extremely rugged hardware platform due to its compact size, soldered-on processor and RAM, and high-reliability features. There are no moving parts, the compact flash resides in a high-retention industrial socket, and it is highly tolerant to shock and vibration. A watchdog timeout provides hardware-level control over unresponsive applications while the voltage sensing reset circuit provides protection from low voltage system failures. Transient Voltage Suppression (TVS) devices built into critical I/O ports provide enhanced ESD protection. An industrial long-life battery provides back-up for the real-time clock and CMOS settings. Battery-less operation is also supported. A self-resetting fuse on the 5V supply to the mouse and keyboard protects against cable and connector shorts.

The Lynx is compatible with a wide selection of popular x86 operating systems including most Linux, Windows, and real time OSs. Contact VersaLogic for more information.

RoHS

EPM-4g/h

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LYNX

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Ordering Information

VL-EPM-4e ..... 100 MHz, Extended temperature
VL-EPM-4g ..... 133 MHz, Standard temperature, RoHS
VL-EPM-4h ..... 100 MHz, Extended temperature, RoHS

Accessories

VL-CBR-1008 ..... ATX to 10-pin EPM power connector (RoHS)*
VL-CBR-2003 ..... 1' 20-pin 2mm / DB-25F (LPT) (RoHS)*
VL-CBR-2501 ..... LPT to Floppy adapter cable (RoHS)*
VL-CBR-4404 ..... 44-pin 2mm IDE cable (RoHS)
VL-CBR-4405 ..... 2mm to .1" IDE adapter board (RoHS)*
VL-CBR-4406 ..... 18" 44-pin latch IDE cable (RoHS)*
VL-CBR-5009 ..... Lynx front panel cable assembly (RoHS)*
VL-CKR-LYNX ..... Lynx cable set (RoHS)
VL-CDD-IDE1 ..... CD-RW, DVD-ROM drive
VL-CFM-xxx ..... CompactFlash modules
VL-CF-CLIP1 ..... Retention clip for CompactFlash
VL-ENCL-5c ..... Development enclosure
VL-EPM-VID-3 ..... Video display module
VL-FDD-144 ..... 3.5" floppy drive
VL-HDD35-xx ..... 3.5" IDE hard disk drive
VL-HDW-101 ..... Metric standoff package*
VL-HDW-201 ..... PC/104 extractor tool
VL-PS200-ATX ..... Development power supply

** Included in VL-CKR-LYNX*

Specifications

General	Processor	AMD SC520
	CPU Speed	133 MHz (EPM-4g) 100 MHz (EPM-4e/h)
	Power Requirements	+5V ±5% @ 0.94A (4.7W) typ. (EPM-4g) +5V ±5% @ 0.85A (4.2W) typ. (EPM-4e/h)
	System Reset	Watchdog timer. VCC sensing (resets below 4.70V typ.)
	Compatibility	PC/104 – Refer to reference manual. PC/104-*Plus* – Full compliance, 3.3V or 5V modules, PCI 2.2 compliant. RoHS - Full compliance (EPM-4g/h).
Mechanical	Board Size	3.55" x 3.775" (90 mm x 96 mm)
	Storage Temperature	-40° to +85°C
	Operating Temperature	0° to +60°C 100 FPM airflow (EPM-4g) 0° to +50°C free air, no airflow (EPM-4g) -40° to +85°C 100 FPM airflow (EPM-4e/h) -40° to +75°C free air, no airflow (EPM-4e/h)
	Thermal Shock	5°C/min over operating temperature.
	Vibration, Sinusoidal Sweep	2g constant acceleration from 5 to 500Hz, 20 minutes per axis, MIL-STD-202G, Method 204, Modified Condition A.
	Vibration, Random	.02g²/Hz (5.35g rms) 15 minutes per axis, MIL-STD-202G, Method 214A, Condition A.
	Mechanical Shock	30g half-sine, 11 mS duration per axis, MIL-STD-202G, Method 213B, Condition J.
	Humidity	Less than 95%, noncondensing.
Memory	System RAM	64 MB SDRAM. Soldered on.
	Flash Interface	High retention CompactFlash socket. Type I or II supported.
Network Interface	Ethernet*	Autodetect 10BaseT/100BaseTX port. Standard RJ-45 connector.
	Network Boot Option	Argon Managed Boot Agent. Supports PXE, RPL, NetWare, TCP/IP (DHCP, BOOTP) remote boot protocols.
Device I/O	IDE Interface	PIO interface with 44-pin 2 mm connector.
	COM 1 & 2 Interface*	RS-232 compatible, 115K baud max.
	COM 3 & 4 Interface*	RS-422/485 selectable, 460K baud max.
	LPT Interface*	Floppy interface multiplexed on LPT pins. (CMOS setup option.)
	Floppy	Supported via LPT connector option.
	Other	Two general-purpose timer inputs.
	Other* ‡	Keyboard and PS/2 mouse.
Software	Operating Systems	Compatible with most X86 operating systems, including Win98/NT/CE, QNX, VxWorks, and Linux.
	BIOS	General Software's Embedded BIOS with OEM Enhancements. Field reprogrammable.

** TVS protected port (enhanced ESD protection).*
‡ Power connection protected with self-resetting fuse.

Data represents standard operation at 25°C with 5.0V supply unless otherwise noted. Specifications are subject to change without notice. PC/104 is a trademark of the PC/104 Consortium.

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