Overview

The Leopard is an embedded computer featuring an Intel 2nd generation Core 2 Duo processor. Based on the PC/104-Plus industry standard form factor, the Leopard supports PCI and ISA stackable expansion buses on a 4.21” by 3.78” footprint. With its combination of ultra-high performance (up to 2.26 GHz), mid-range power consumption (21.3W typ.), ruggedness, and compact size, the Leopard is an ideal embedded computer solution for medical, security, defense, transportation, and industrial markets. Potential applications include flight navigation, guidance systems, and evolving applications that rely on fast on-board processing of large amounts of data.

Like all VersaLogic products, the Leopard is designed to support OEM applications where high reliability and long-term availability are required. From application design-in support, to its 5+ year production life guarantee, the Leopard supports serious embedded applications. The Leopard is fully RoHS compliant. Customization is available, even in low OEM quantities.

Details

Driven by a 2nd generation Intel Core 2 Duo processor designed specifically for embedded applications, the Leopard runs up to 2.26 GHz. Enhanced Intel SpeedStep® technology provides dynamic processor frequency scaling to meet instantaneous performance needs while minimizing power draw and heat dissipation. This allows users to fine-tune the balance of power conservation and performance to suit their application needs.

Intel’s GS45 + ICH9M chipset offers graphics core speeds up to 533 MHz for high-end graphics, advanced 3D rendering, high-definition video playback, and media acceleration for video CODECs. Analog VGA and LVDS flat panel video interfaces support flexible display configurations including Extended Desktop, Clone, and Twin display modes.

Leopard’s standard on-board features include dual gigabit Ethernet, an SO-DIMM socket for up to 4 GB DDR3 RAM, six USB 2.0 ports, five serial ports, dual SATA interface, LPT interface, HD audio, and a MiniBlade socket and eUSB interface for removable flash storage. VersaLogic’s SPX expansion interface creates additional access to cost-effective plug-in I/O solutions.

Available in both standard (0° to +60°C) and extended (-40° to +85°C) temperature versions; the Leopard meets MIL-STD-202G specifications for shock and vibration. The Leopard features transient voltage suppression (TVS) devices on many external connections for enhanced electrostatic discharge (ESD) protection in the field.
The Leopard includes an embedded BIOS with OEM enhancements from Phoenix Technologies. The field-reprogrammable BIOS supports custom defaults and the addition of firmware applications for security processes, remote booting, and other pre-OS software functions. The Leopard is compatible with a variety of popular operating systems including Windows, Windows Embedded, Linux, VxWorks, and QNX.

**Ordering Information**

<table>
<thead>
<tr>
<th>Model</th>
<th>Speed</th>
<th>Operating Temp.</th>
<th>Conformal Coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>VL-EPM-35S</td>
<td>2.26 GHz</td>
<td>0° to +60°C</td>
<td>None</td>
</tr>
<tr>
<td>VL-EPM-35SR</td>
<td>2.26 GHz</td>
<td>0° to +60°C</td>
<td>No</td>
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<tr>
<td>VL-EPM-35E</td>
<td>1.2 GHz</td>
<td>-40° to +85°C</td>
<td>None</td>
</tr>
<tr>
<td>VL-EPM-35ER</td>
<td>1.2 GHz</td>
<td>-40° to +85°C</td>
<td>Urethane</td>
</tr>
</tbody>
</table>

* Special order

**Accessories**

- **Leopard Cable Kit (VL-CKR-LEOP)**
  - VL-CBR-0401 6.25" ATX to SATA power adapter cable
  - VL-CBR-0701 19.75" SATA cable
  - VL-CBR-0803 12" 8-pin latching/(2) 3.5 mm stereo line in/out cable
  - VL-CBR-1008 ATX to 10-pin power cable
  - VL-CBR-1201 12-pin 2 mm latching/15-pin VGA adapter cable
  - VL-CBR-3406 I/O cable set and paddleboard
  - VL-CBR-8006 Primary I/O breakout cable
  - VL-HDW-105 0.6" standoff package (metric thread)

**Desktop Display Interface**

- Standard analog output (VGA)
- 18/24-bit LVDS interface
- CMOS-selectable TFT panel types.

**Operating Systems**

- Compatible with most x86 operating systems, including Windows, Windows Embedded, Linux, VxWorks, and QNX.

**Power Requirements**

- +5V running Windows XP with 1 GB RAM, dual Ethernet, keyboard, and mouse:
  - VL-EPM-35E/R: 2.8A (14W), 4.3A (21.5W), 5.7A (28.5W)
  - VL-EPM-35S/R: 2.3A (11.5W), 3.1A (15.5W), 3.9A (19.5W)

**Software**

- Phoenix Technologies Embedded BIOS with OEM enhancements. Field-reprogrammable support for USB keyboard/mouse and USB boot. User-configurable CMOS defaults.

**Accessories**

- **VL-ENCL-5x Development enclosure**
- **VL-F15-xxxx eUSB module (USB)**
- **VL-F23-xxxx MiniBlade module (USB)**
- **VL-HDS35-320 320 GB 3.5" SATA hard drive**
- **VL-HDW-106 0.6" standoff package (English thread)**
- **VL-HDW-203 PC/104 board extractor tool, metal**
- **VL-MM7-xxxx DDR3 SDRAM module**
- **VL-SPX-x SPX expansion modules**

Data represents standard operation at +25°C with +5V supply unless otherwise noted. Specifications are subject to change without notification. Intel, Intel Core, and SpeedStep are trademarks of Intel Corp. MiniBlade is a trademark of the SFF-SIG. SPX is a trademark of VersaLogic Corp. All other trademarks are the property of their respective owners.

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