VERSALOGIC CORPORATION

VL-EPM-V4

PC/104-*Plus* Video Expansion Module

- SiS™ Volari™ Z9M GPU
- 8 MB VRAM
- Analog VGA and LVDS output
- Industrial temp. operation
- MIL-STD-202G shock/vibe

Highlights

PC/104-*Plus*™
Rugged industry-standard form factor.

Video
Analog VGA and LVDS video output.

Industrial Temperature
-40° to +85°C operation for harsh environments.

MIL-STD-202G
Qualified for high shock/vibration environments.

Overview

The VL-EPM-V4 expansion module provides video capabilities for PC/104-*Plus* embedded systems. With a full industrial temperature rating and rugged construction, the VL-EPM-V4 is an ideal solution for embedded video applications in harsh, mobile, and/or remote environments.

The VL-EPM-V4 is designed to support OEM applications where high reliability and long-term availability are required. From application design-in support, to the 5+ year production life guarantee, the VL-EPM-V4 provides a rugged embedded computer solution with an excellent cost of ownership. The VL-EPM-V4 is manufactured and tested to the highest quality standards and is fully RoHS compliant. Customization is available, even in low OEM quantities.

Details

Based on the PC/104-*Plus* standard, the VL-EPM-V4 supports PCI and ISA stackable expansion buses on an industry-standard 90 mm x 96 mm (3.55" x 3.78") expansion module.

Utilizing an SiS Volari Z9M GPU for high-performance graphics capabilities, the VL-EPM-V4 provides analog VGA and LVDS video output (simultaneous).

The on-board video BIOS supports VESA™ standard graphics modes. The VL-EPM-V4 can be used as a development tool for VersaLogic's headless (no video output) Tomcat and Newt single board computers or to provide a secondary video output for any PC/104-*Plus* embedded system.

The Z9M GPU features advanced power reduction (throttling) and power down (sleep) controls, which can be accessed in various ways depending on the operating system in use.

Designed for full industrial temperature operation (-40° to +85°C), the VL-EPM-V4 is built to withstand thermal extremes. The VL-EPM-V4 board also meets MIL-STD-202G specifications for mechanical shock and vibration for use in harsh environments.

The VL-EPM-V4 is compatible with a variety of popular operating systems including Windows, Windows Embedded, Linux, VxWorks, and QNX using standard software drivers.

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RoHS

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VL-EPM-V4

PC/104-*Plus* Video Expansion Module

Ordering Information

Model	VGA	LVDS	Operating Temp.
VL-EPM-V4E	Y	Y	-40° to +85°C

Accessories

Part Number	Description
Cables	
VL-CBR-1201	12-pin 2 mm (latching) / 15-pin VGA adapter
VL-CBR-2010	20" 18-bit LVDS flat panel (Hirose)
VL-CBR-2011	20" 18-bit LVDS flat panel (JAE)
Hardware	
VL-HDW-105	0.6" standoff package (metric thread)
VL-HDW-106	0.6" standoff package (English thread)
Miscellaneous	
VL-HDW-203	PC/104™ extractor tool, metal

Specifications

General	Board Size	PC/104 standard: 90 mm x 96 mm (3.55" x 3.78")		
	Power Requirements (+5V)*	Idle	Typical	Max
		0.22A (1.10W)	0.30A (1.48W)	0.37A (1.85W)
	Stackable Bus	PC/104-*Plus*: PCI, ISA (pass-through only)		
	Manufacturing Standards	IPC-A-610 Class 2 compliant		
	RoHS	Compliant		
Environmental	Operating Temperature	-40° to +85°C		
	Storage Temperature	-40° to +85°C		
	Airflow Requirements	Free air from -40° to +85°C		
	Thermal Shock	5°C/min. over operating temperature		
	Humidity	Less than 95%, noncondensing		
	Vibration, Sinusoidal Sweep	MIL-STD-202G, Method 204, Modified Condition A: 2g constant acceleration from 5 to 500 Hz, 20 minutes per axis		
	Vibration, Random	MIL-STD-202G, Method 214A, Condition A: 5.35g rms, 5 minutes per axis		
	Mechanical Shock	MIL-STD-202G, Method 213B, Condition G: 20g half-sine, 11 ms duration per axis		
Video	Controller	SiS Volari Z9M. 64-bit 2D graphics engine.		
	VRAM	Integrated 8 MB DDR SDRAM		
	Desktop Display Interface	Analog output (VGA). 16/24-bit. Up to 1280 x 1024 (24-bit) or 1920 x 1200 (16-bit).		
	OEM Flat Panel Interface	Single-channel LVDS interface. Up to 1280 x 1024 (18-bit).		
Software	BIOS	On-board SPI-based video BIOS supports VESA standard graphics modes		
	Operating Systems	Compatible with most x86 operating systems including Windows, Windows Embedded, Linux, VxWorks, and QNX using standard software drivers		

** Power specifications represent operation at +25°C with +5V supply running Windows XP. Typical power computed as the mean value of Idle and Maximum power specifications. Maximum power is measured with 50% GPU utilization.*

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