VL-EPMs-PS1

SUMIT™-104 Power Supply Module



- 50 watt DC/DC converter
- Input range: +9 to +40 VDC
- Output: +5V and ±12V
- Reverse polarity and transient protection
- SUMIT and PC/104™ expansion

Highlights

SUMIT and PC/104 Compatible
Supports SUMIT and ISA expansion on a compact, highly rugged format.

Triple Output Supply with Wide Input Voltage
Output voltages of +5V and ±12V generated from +9 to +40 VDC input.

Input Protection
Diode protected against input polarity reversal. Transient voltage suppression provides enhanced ESD protection.

Efficient Switching Design
Engineered for maximum power efficiency and optimum thermal management.

Power Connectors
Up to 50 watts outputis delivered to the SUMIT and ISA bus power pins as well as card edge terminal blocks.

TTL Level Disable Inputs
Enables unused power supplies to be disabled to save power or can be used for on/off power switching.

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

Overview

The VL-EPMs-PS1 is a plug-in 50 watt switching DC/DC converter and power supply module designed to power an embedded system stack. This robust power supply is the ideal solution for powering systems in defense, aerospace, medical device, robotics, and factory automation where a small footprint and dependable operation are crucial design factors.

This in-stack supply is an ideal way to provide clean, reliable, noise-free power to the heart of larger systems. It eliminates the problems associated with distributing clean, properly regulated power within automated systems, especially those that include motors and other sources of electrical noise. Voltage sag, intermittent operation, and unexplained system resets are eliminated by having a dedicated in-stack power source for the control system.

Like all VersaLogic products, the VL-EPMs-PS1 is designed to support OEM applications where high reliability and long-term availability are required. From application design-in to 5+ guaranteed years of production life, the VL-EPMs-PS1 provides a durable embedded computer solution with an excellent cost of ownership. The VL-EPMs-PS1 is manufactured and tested to the highest quality standards and is fully RoHS compliant. Customization is available, even in low OEM quantities.

Details

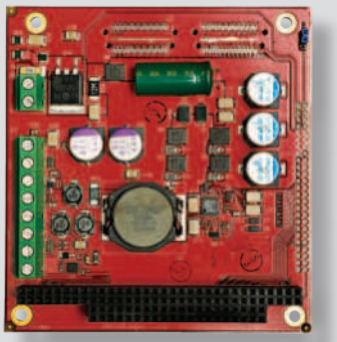
The VL-EPMs-PS1 power supply provides up to 50 watts of continuous output power. The unit operates over a wide +9 to +40 VDC input range to produce standard output voltages of +5V and ±12V. Output power is delivered through the stackable SUMIT and/or ISA connectors to power compatible boards while auxiliary terminal blocks provide output power for sensors, transducers, and other ancillary circuitry.

The module is designed to operate over an extended temperature range (50W from -40° to +60°C; 25W at +85°C) and is certified to MIL-STD-202G specifications for shock and vibration. Input protection clamps voltages to safe levels while a 10 amp fuse protects the card from overcurrent conditions. Regulation and transient suppression reduce supply ripple and protect the computer circuitry from power source hazards. Input protection guards against input polarity reversal of up to +40 VDC.

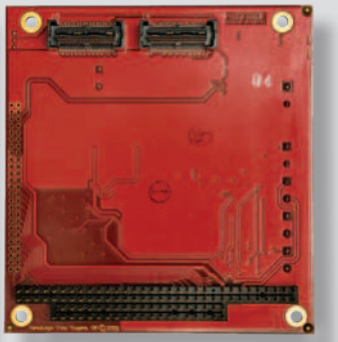
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VL-EPMs-PS1

SUMIT-104 Power Supply Module



VL-EPMs-PS1a (Top)



VL-EPMs-PS1a (Bottom)

Ordering Information

VL-EPMs-PS1a .....50W, SUMIT-AB + ISA connectors

Accessories

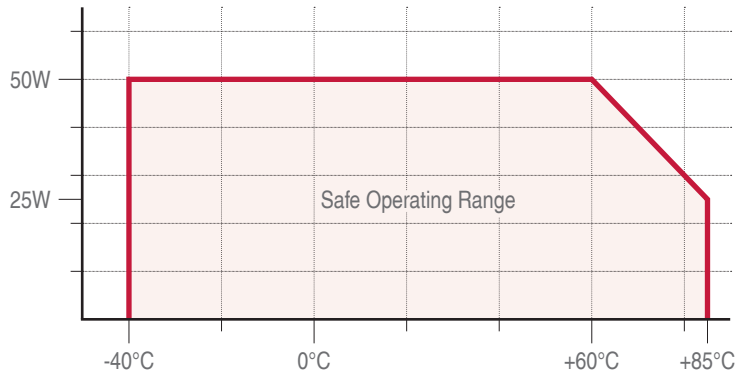
VL-HDW-105 ..... SUMIT standoff package - metric thread
VL-HDW-106 ..... SUMIT standoff package - English thread
VL-HDW-203 .....PC/104 extractor tool, metal

SUMIT Resources		
Form Factor: SUMIT-104		
	SUMIT-A	**SUMIT-B**
PCIe x1	–	–
PCIe x4		–
USB	–	
ExpressCard	–	
LPC	–	
SPI / µWire	–	
SMBus / I²C	–	
+12V	✓	
+5V	✓	✓
+5Vsb	–	–
+3.3V	–	–

SPECIFICATIONS

General	Board Size	PC/104 standard: 90 mm x 96 mm (3.55" x 3.78")
	Switching Frequency	+5V output: 200 KHz fixed ±12V output: 1.2 MHz fixed
	Expansion	SUMIT, PC/104 (ISA)
	RoHS	Compliant
Environmental	Operating Temperature	-40° to +60°C at 50W; -40° to +85°C at 25W*
	Storage Temperature	-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: $0.02g^2$/Hz (5.35g rms), 15 minutes per axis
	Mechanical Shock	MIL-STD-202G, Method 213B, Condition J: 30g half-sine, 11 ms duration per axis
Input	Power Requirements	+9 to +40 VDC, 75W
	Protection	Transient voltage, voltage reversal, and overcurrent
Output	+5V	50W (10A) max. continuous output from -40° to +60°C; 25W (5A) at +85°C*
	±12V	1.8W (150 mA) each max. continuous output from -40° to +85°C
	Voltage Ripple	+5V output: 30 mV peak-to-peak at 50% load ±12V output: 30 mV peak-to-peak at 50% load
	Regulation	Less than 1%
	Protection	Transient voltage and overcurrent

* POWER OUTPUT VS. TEMPERATURE



Data represents standard operation at +25°C with +5V supply unless otherwise noted. Specifications are subject to change without notification. PC/104 is a trademark of the PC/104 Consortium. SUMIT is a trademark of the SFF-SIG.

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