RIGEL ENGINEERING

Custom solutions with off-the-shelf pricing

VP3500

6U OpenVPX Dual PMC, XMC, MiniPCIe Carrier card with Integrated 5-Port Gigabit Ethernet Switch

Features:

- Four 4-Lane Gen 2 VPX PCIe Ports (4x FAT Pipes)
- Two Independent PCI-X 133MHz PMC Slots
- Two 8-Lane Gen 2 PCIe XMC Slots
- Two MiniPCIe Sockets (Half-Mini and/or Full-Mini Card)
- MiniPCIe IO Accessible via the Front Panel or Backplane
- Integrated 5-Port Gigabit Ethernet switch (Vita 46.6)
- On-Board Microcontroller for VP3500 Configuration, Control & Status Monitoring
- Configurable PMC/XMC Rear IO (Vita 46.9) via IO Module
  - XMC – X38s to P3/P5, X12d+X8d to P4/P6
  - PMC – P64s to P3/P5
  - Custom Routing
- On-Board Status Monitoring and Indicators
- VPX P0 I2C Busses for Control & Communication
- Temperature Sensor
- Configurable VPX and board Reset Generation via SMB Command, XMC or Board Power Fail
- Board Power Down via SMB Command or External Signal
- Air-Cooled and Rugged, Conduction-Cooled available
- Rigel's Standard 3 Year Warranty

Rigel's VP3500 VPX 6U carrier card is the most flexible and feature-filled VPX carrier in the embedded industry. It allows system designers to greatly expand system IO capacity while reducing overall board count and system cost.

The VP3500 not only features two PMC/XMC slots, it also provides two MiniPCIe sockets to satisfy practically any additional IO requirements. The PMC/XMC IO may be accessed via the front panel or VPX backplane. Pluggable IO modules allow for standard PMC/XMC differential and single-ended IO routing (Vita 46.9) plus the flexibility for custom routing options to the backplane. Additionally, a MiniPCIe IO adapter card can interface practically any MiniPCIe card IO to the VPX backplane. MiniPCIe IO is also available on the front panel.

What sets the VP3500 apart is its integrated 5-port Gigabit Ethernet switch. The switch is configured with VPX standard Vita 46.6 routing to the backplane. It supports two 1000BASE-T and two 1000BASE-BX ports. The 5th port is routed to the backplane on user IO pins and may be used as a maintenance port.

The on-board management microcontroller allows continuous communication between the system controller and the VP3500. The microcontroller configures the VP3500 options and monitors the on-board power supplies as well as ambient board temperature. The microcontroller reports status and responds to system controller commands.

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Hardware Specifications

PCIe Switch, VPX Backplane Fabric

- PCIe Gen 2 (compatible with Gen 1)
- PCIe Base Specification Rev 2.0
- 100MHz PCIe Frequency
- Port widths of x4, x8, x16 (x1 & x2 also supported)
- Transparent bridging
- Configurable via on-board microcontroller

PMC

- Two PMC Slots
- 133MHz 64-bit PCI-X capable
- +3.3V PCI signaling
- PCISIG R3.0 Compliant
- Front panel IO access
- P64s to VPX P3/P5 (Vita 46.9)

XMC

- Two XMC Slots
- 100MHz REFCLK Frequency
- Double FAT Pipe (8x PCIe lanes)
- +3.3V XMC signaling
- +5V XMC Power
- XMC IO X38s to P3/P5, X12d+X8d to P4/P6 (Vita 46.9)

MiniPCIe

- Two MiniPCIe Sockets
- Full-Mini & Half-Mini Support
- Front panel IO access
- 20x Differential & 8x Single-ended IO signals routed to P2/P6 via a MiniPCIe adapter card for each socket

Gigabit Ethernet Switch

- Five Gigabit Ethernet ports
- On-board magnetics
- 2x 1000BASE-T to P4 (Vita 46.6)
- 2x 1000BASE-BX to P4 (Vita 46.6)
- 1x 1000BASE-T to P6 User-defined IO

On-board Microcontroller

- Communicates with System Controller via SMB
- Monitors temperature & on-board power supplies
- Used to configure PCIe & Reset options
- Responds to System Controller commands

Miscellaneous

- All power good front panel LED
- Multiple status LEDs (PCIe, MiniPCIe, Ethernet)
- Rear Transition Module for system debug, rear IO access & software development

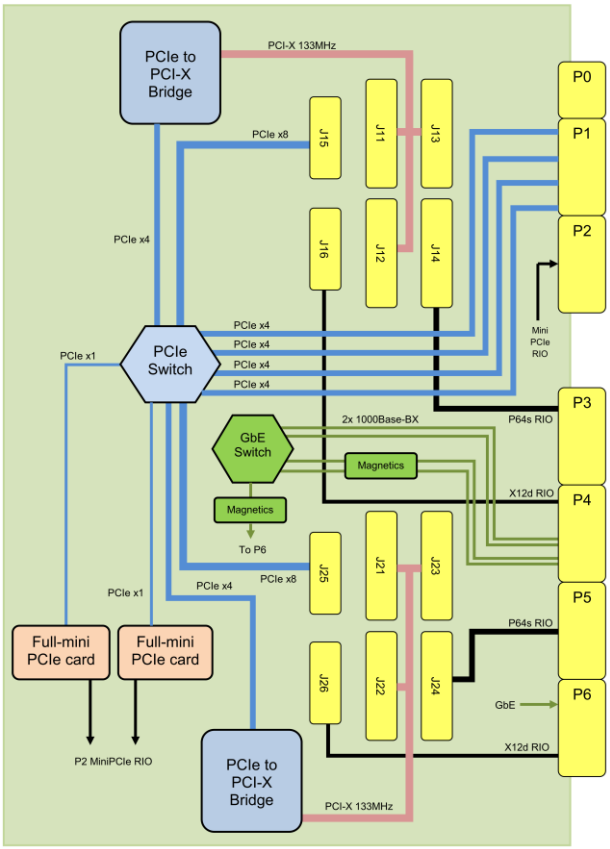
Physical / Electrical / Environmental

- 6U VPX form factor
- 13.4 oz / 380 grams

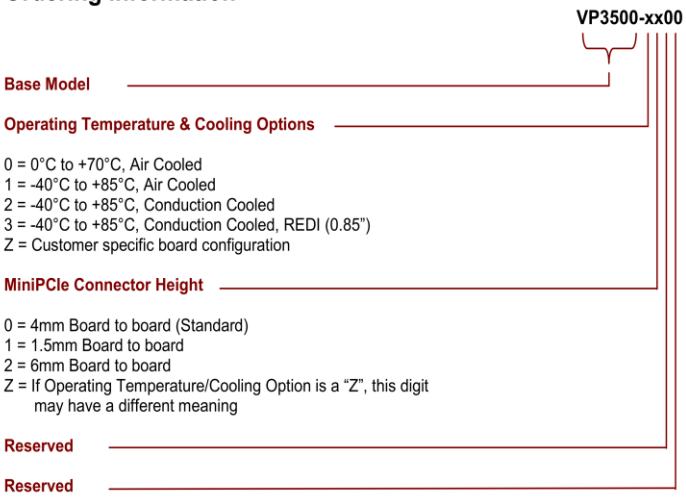
- VPX +12V Maximum / typical power: 1.5A/1.125A
- VPX +5V Maximum / typical power: .150/.110A

- Temperature:
  - Operating (standard): 0°C to +70°C
  - Operating (extended): -40°C to +85°C
  - Storage (all): -40°C to +85°C

- Relative Humidity:
  - Operating: 0% to 95%, non-condensing
  - Storage: 0% to 95%, non-condensing



Ordering Information



At Rigel Engineering, we are dedicated to working directly with your Engineers and System Designers to provide the best possible solution that meets or exceeds your requirements.

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