

P1 - POWER SUPPLY

The Voyager **P1** SOSA Aligned Low Voltage Power Card (LVPC) is a modular, rad-tolerant supply capable of providing 330W of power for 3U missions. The card is the ideal pairing for powering one or multiple FPGA and Processor cards in a SOSA aligned chassis, especially as part of a Voyager developed avionics unit. An on-board IPMC provides telemetry to the overall system. An expansion connector enables further flexibility with switched services and input/output front panel connections.

300W OUTPUT

20-40V INPUT

RAD-TOLERANT

APPLICATION

SOSA Aligned 3U VPX Boxes

Avionics and instrument boxes

SmallSat missions

Rapid, fast-turn space missions paired with SOSA FPGA and Processor cards

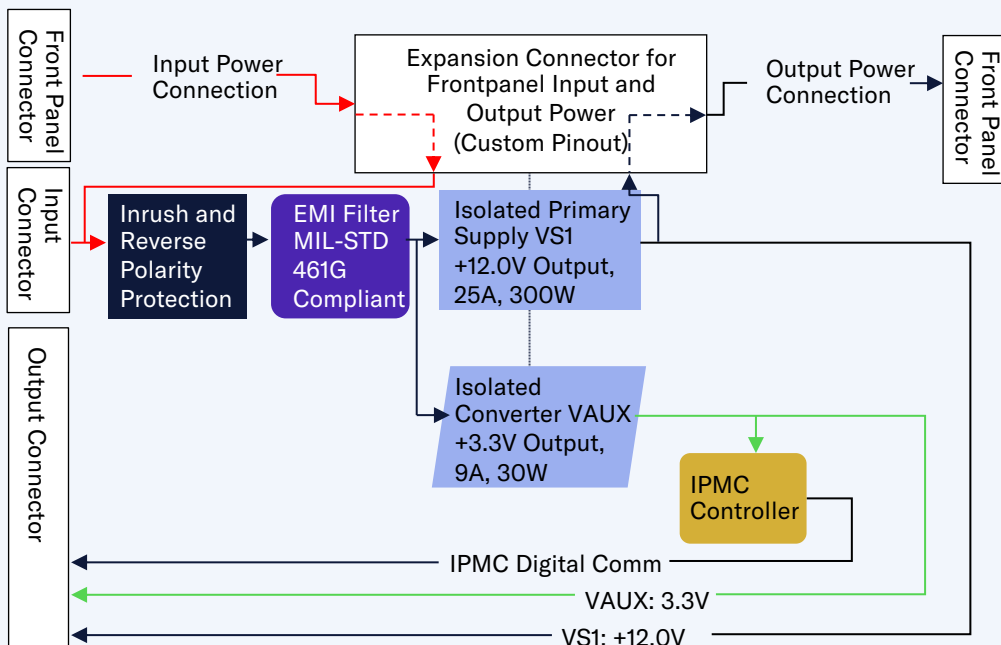


FIGURE 1 | POWER CARD BLOCK DIAGRAM

KEY FEATURES

- SOSA Aligned:** EMI filtering, inrush control, IPMC, and expansion connector interface
- Primary Power:** 12V isolated output up to 300W
- Auxiliary Power:** Independent 3.3V isolated AUX output up to 30W
- Flexible Input:** 20V to 40V through backplane or front panel
- Health Telemetry:** IPMC controller reports health telemetry information
- Real-Time Monitoring:** Voltage, temperature, and output current monitoring
- Radiation-tolerant design**

PRODUCT SPECIFICATIONS

Specifications: SOSA Aligned Power Supply

Input Voltage Range	20V – 40V, Nominal 28V
EMI	MIL-STD-461 C-G Conducted Emissions Compliant
Radiation	45krad, 60MeV/mg/cm ²
Maximum Supported IPMCs	12x IPMCs per LVPC (contact us for additional IPMC support)
Monitoring	On-board ADC for monitoring output voltage, current, and temperatures to IPMC. UVLO/OVLO protection for input and output
Interface Options	Input power from backplane or front panel through expansion interface Output power to backplane or front panel through expansion interface
Environment	
Temperature Range	-40°C to +85°C (Operating), -55°C to +125°C (Storage)
Thermal Interface	Conduction Cooled, per VITA 48.2
Vibration	14 gRMS Acceptance, 20 gRMS Qualification
Parts Level Options	Commercial Space, NASA Levels 2 and 3
SWaP	
Dimensions (SOSA Compliant)	Length: 220 mm Width: 100 mm Pitch: 1.00 in
Mass Power Dissipated	<700 g <30W at Full Load

Output Voltage Options

	12V VS1 Output	3.3V AUX Output
Output Power	300W	30W
Output Current	25A	9A
Expansion Interface	Expansion Cards Available	-
Peak Efficiency	92%	90%