PRODUCT OVERVIEW SHEET

molex

VPS-601 6U VPX Power Supplies ›

Delivering a maximum power output of 2,300W with up to 95% efficiency, the VPS-601 6U VPX Power Supply from Molex is a DC-to-DC discrete power supply designed for defense, aerospace and high-reliability embedded systems. The VITA 62/OpenVPX-compliant and SOSA-aligned design supports 270V DC input, reduces the need for external filters by natively meeting MIL-STD-461 EMI/EMC standards, enables N+1 redundancy and provides superior power availability for mission-critical platforms.

ADVANTAGES AND FEATURES

Streamlines integration into standards-based open-system architectures

The design is aligned with VITA 62, OpenVPX and SOSA standards, improving scalability and simplifying integration into diverse embedded systems.

Supports high-availability VPX platforms

N+1 parallel operation capability with digital current sharing enables reliable, scalable and redundant power architectures for mission-critical applications.

Provides advanced system-health monitoring

IPMC management and CAN bus communication improve system reliability by enabling robust system-health and operating-status visibility.

Standards Compliance	VITA 62, OpenVPX, SOSA, MIL-STD-461, MIL-STD-704
Output Power	Up to 2,300W
Input Voltage	210 to 400V DC (270V DC nominal)
Efficiency Rating	Up to 95%

Mitigates thermal challenges for space-constrained VPX system architectures

Conductive cooling, with available air flow-through and liquid flow-through options, supports flexible and efficient thermal management across different chassis designs and compact devices.

Minimizes system complexity, weight, space and integration demands

Native EMI/EMC performance meeting MIL-STD-461 CE101/CE102 standards at full load reduces the need for external filtering, simplifying system design and saving space in compact devices.



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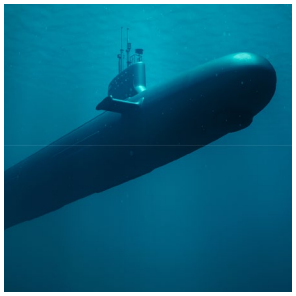
MARKETS AND APPLICATIONS

Aerospace
Commercial aircraft
Helicopters

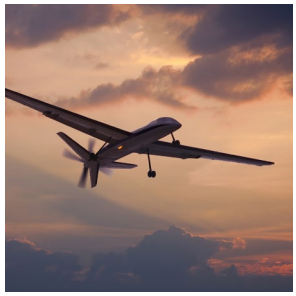
Defense
Fighter jets
Military ground vehicles
Naval ships
Unmanned aerial vehicles (UAVs)



Helicopters



Naval Ships



UAVs

SPECIFICATIONS

Reference Information
System Management: IPMC compatible with VITA 46.11 and CAN bus
VITA and MIL Standards:
- Compliance—VITA 62, OpenVPX, SOSA aligned, MIL-STD-461, MIL-STD-704
- Shock—VITA 47.2 OS1, Sawtooth
- Vibration—VITA 47.2 V2
- Humidity—VITA 47.2 (non-condensing)
- Altitude—VITA 47.2
- Cooling—VITA 48.2 (conduction), VITA 48.5 (air) or VITA 48.4 (liquid)
- EMI—MIL-STD-461 CE101/CE102 (at full load with no external filter)
- Electrostatic discharge—VITA 47.2 (150 pF + 330 Ohms)

Mechanical
Form Factor: 6U VPX, VITA 62 compliant
Connectors:
- P0 Input—2364867-1, TE: 2313445-1 spacers
- P1 Output—TE: 2314578-1

LED Indicators: Input OK, 12V output OK, 3.3V output OK, over temp

Physical
Operating Temperatures: -40 to +85°C
Storage Temperatures: -55 to +105°C

Electrical
Output Power: Up to 2,300W
Efficiency: Up to 95%
Input Voltage: 270V DC nominal (210 to 400V DC operating, MIL-STD-704 compliant)
Output Voltage/Current: 12V DC @ 180.0A max., 3.3V aux. @ 40.0A max.
Ripple: 50mV max. peak-to-peak
Line Regulation: 0% typical, ± 0.5% max.
Load Regulation (0 to 100% Output Load): 0.1% typical, ± 2.0% max.
Isolation: 3,000V DC (input to output), 3,000V DC (input to case), 500V DC (output to case)
Overvoltage/Overcurrent/Thermal Protection: Programmable

ORDERING INFORMATION

Molex Part Number	Legacy AirBorn Part Number	Description
VPS-601-0001	VPX6U23S01-270-000	2,300W VITA 62, OpenVPX-compliant, 48.2 conduction-cooled (CC) 6U power supply, 270V DC input, 12V DC heavy + 3.3V auxiliary
VPS-601-0002	VPX6U23S01-270-004	2,300W VITA 62, OpenVPX-compliant, 48.4 liquid flow-through (LFT) 6U power supply, 270V DC input, 12V DC heavy + 3.3V auxiliary

www.molex.com

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