



# VITA 62 VPX SOLUTIONS DC/DC POWER SUPPLY

DPM4090 SERIES

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## 6U DPM4090 SERIES

### 1200 W DC/DC 6U VITA 62 POWER SUPPLY

The DPM4090 is a series of 6U VITA 62 compliant mechanically robust, conducted cooled by wedge locks, high performance, 1.2kW DC to DC six outputs power supplies, designed for Airborne (MIL-STD-704) and other Hi-Reliability applications where 270VDC has to be converted to a tightly regulated, filtered and protected DC outputs.



For quotes and customization requests, please  
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Ver. 1.0

## SPECIFICATIONS:

<b>DC Input</b>	<b>Voltage Range</b>	270VDC Ride-through normal transient IAW MIL-STD-704E/F For extended input version - <b>Please contact factory for more details</b>		
	<b>Isolation</b>	500V <sub>DC</sub> Input to Output 500V <sub>DC</sub> Input to Case		
	<b>Inrush Current Limit</b>	peak value of 5 x I <sub>IN</sub> for inrush currents lasting longer than 100μs.		
<b>DC Output</b>	<b>Rating</b>	P01*	12V/35A	Sense
		P02*	12V/35A	Sense
		P03	5V/12V/40A	Sense
		3.3V_Aux	3.3V/15A	Sense
		+12V_Aux	+12V/1A	
		-12V_Aux	-12V/1A	
		Total power output: 1200W		
	*P01 and P02 outputs can be connected in parallel to achieve a single 12V/70A output			
	<b>Voltage Regulation</b>	Better than or equal to ±1% (no load to full load, low line to high line, -55 °C to +85 °C).		
	<b>Sense</b>	See page 7		
<b>Ripple</b>	Less than 50 mVp-p, typical (max. 1% ) measured across 0.1μF and 10μF on Load			
<b>Isolation</b>	500V <sub>DC</sub> Output to Case			
<b>Current Limit &amp; Overload</b>	<b>Overload / Short Circuit Protection</b> Continuous protection (10-30% above maximum current) for unlimited time (Hiccup).			
<b>Efficiency</b>	Typical 89% (Nominal line, nominal load, room temperature)			
<b>Overvoltage Protection</b>	Set to engage at 110%-130% of nominal voltage.			
<b>Over Temp. Protection</b>	Shutdown at temperature of +100°C ± 5°C. Automatic recovery when temperature drops below +90°C ± 5°C. Measured at Unit edge.			

### About Digital Power

Digital Power Corporation designs and manufactures full custom, value-added, and standard comprehensive power solutions for the most demanding applications in the defense, healthcare, telecom, and industrial markets.

## SPECIFICATIONS (CONT.):

<b>Function and signals</b>	See page 5	
<b>Environment Designed to meet MIL-STD-810G</b>	<b>Temperature</b>	Operating: -55°C to +85°C (at plug-in card edge, IAW VITA 62 CC4) Storage: -55°C to +125°C
	<b>Humidity</b>	Method 507.5 & VITA 47 Para. 4.6 Up to RH 95%
	<b>Salt-fog</b>	Method 509.4
	<b>Altitude</b>	Method 500.5, Procedure II (Operational) & VITA 47 para. 4.7 60,000 ft.
	<b>Mechanical Shock</b>	Method 516.6 Procedure I & VITA 47 Shock Class OS1 Saw-tooth, 20g peak, 11ms.
	<b>Vibration</b>	Method 514.6 Procedure I Figure 514.5C-17. General minimum integrity exposure. (1 hour per axis & VITA 47 Vibration Class V2 5-2000Hz, 0.04g <sup>2</sup> /Hz
	<b>Fungus</b>	Does not support fungus growth, in accordance with the guidelines of MIL-STD-454, Requirement 4
<b>EMI</b>	<b>MIL-STD-461F</b>	Designed to meet MIL-STD-461F CE102, CS101, CS114, CS115 & CS116.
<b>Reliability</b>	> 100,000 hours, calculated per MIL-STD-217F Notice 2 at +85°C at wedge lock edge, Ground Fixed	
<b>Cooling Requirements</b>	Unit is a conducted cooled by wedge locks, Max temperature of +85 °C is allowed at units edge per VITA62/	
<b>Form factor</b>	9.187" wide, 0.97" high and 6.63" deep.	
<b>Weight</b>	Approx. 4 lbs	
<b>Connectors</b>	See pages 12-13	

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## PIN ASSIGNMENT

### Connector P0

Connector type: 6450843-6 or eq.

Pin Number	Signal Name
P7	+DC_IN
P6	+DC_IN
P5	-DC_IN
P4	-DC_IN
P3	
P2	
P1	CHASSIS_GND

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