



VPX VITA 62 POWER SUPPLY - DC/DC

DPM4050 SERIES

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DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- 3U, 0.8 PITCH, VITA 62 COMPLIANT
- FAST INITIALIZATION TIME
- 5 OUTPUTS
- OPTIONAL EXTENSION FOR HOLDUP CARD
- 150W



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Ver. 1.0

Electrical Specifications

DC Input

16 to 36 V_{DC}
Max Non-Operating 100V
Options:

- 1) MIL-STD-704 (A-F)
Normal and Abnormal
Steady State
- 2) MIL-STD-704(A-F)
transients Up to 50V, 80V
- 3) MIL-STD-1275 100V
Surge

Line/Load regulation

Less than 1% for 12V & 5V
Outputs 1.5% for 3.3V outputs
(No load to full load, -55°C to 90°C)

Ripple and Noise

Typically less than 50mV_{p-p}(max.
1%p). Measured across a 0.1µF
capacitor and 10µF capacitor on load
at input voltage of 18V-36V, across
the whole temperature range.

DC Output

VS1: 12V/2A
VS2: 3.3V/15A
VS3: 5V/12A
3.3V_Aux: 3.3V/1A
-12V_Aux: 12V/1A

Efficiency

Up to 85 %
(Full load room temperature)

Load Transient Overshoot and Undershoot

Output dynamic response of less
than 5% at load Step of 30%-90%.
Output returns to regulation in less
than 1mSec

Isolation

500V between Input and Output
500V between Input and Case 500V
between Output and Case

EMC

Complies with MIL-STD-461F (5µH
LISN): CE101, CE102, CS101, CS114,
CS115, CS116

System Management

I2C/IPMI protocol available for
voltages, currents and temperature
for all voltages
(GAX, SCL, SDA)

Environmental ¹

Design to Meet MIL-STD-810G

Temperature

Operating: -55°C to +90°C at
unit edge¹
Storage: -55°C to +125°C

Altitude

Method 500.5, Procedure I & II
Storage/Air Transport: 40 kft
Operation/Air carriage: 70 kft

Salt Fog:

Method 509.5

Fungus

Does not support fungus growth, in
accordance with the guidelines of
MIL-STD-454, Requirement 4.

Humidity

Method 507.5, Up to 95% RH

Shock

Vita 47 Level ECC4

Vibration

Shock: Saw-tooth, 40g peak, 11mS.
Vibration: Figure 514.6E-1. General minimum integrity exposure. (1 hour per axis.)

Reliability: 225,900 Hours, calculated IAW MIL-HDBK-217F Notice 2 at +45°C, AUC.

Note 1: 90°C at 50% Load

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.

Protections ¹

Input

- **Inrush Current Limiter**
Peak value of $5 \times I_{IN}$ for initial inrush currents lasting more than 50 μ Sec.
- **Under Voltage**
Unit shuts down when input DC voltage drops below $15.3 \pm 0.5V_{DC}$.
Automatic restart when input voltage returns to nominal range.
- **Over Voltage Lock-Out**
Unit shuts down when input voltages rise above $55 \pm 2V_{DC}$.
Automatic restart when input voltage returns to nominal range.

Output

- **Passive over voltage protection on Aux outputs**
Transorb, selected at $25\% \pm 5\%$ above nominal voltage, is placed across the output for passive voltage limit.
- **Active over voltage protection on VS# outputs**
 $20\% \pm 5\%$ above nominal voltage. Automatic recovery when output voltage drops below threshold.
- **Overload / Short-Circuit Protection**
Continuous protection (10-30% above maximum current) for unlimited time (Hiccup).
Automatic recovery when overload / short circuit removed.

General

- **Over Temperature Protection**
Automatic shutdown at internal temperature of $95 \pm 5^{\circ}C$.
Automatic recovery when temperature drops below $90 \pm 5^{\circ}C$.

Note 1: Thresholds and protections can be modified / removed – please consult factory)

About Digital Power

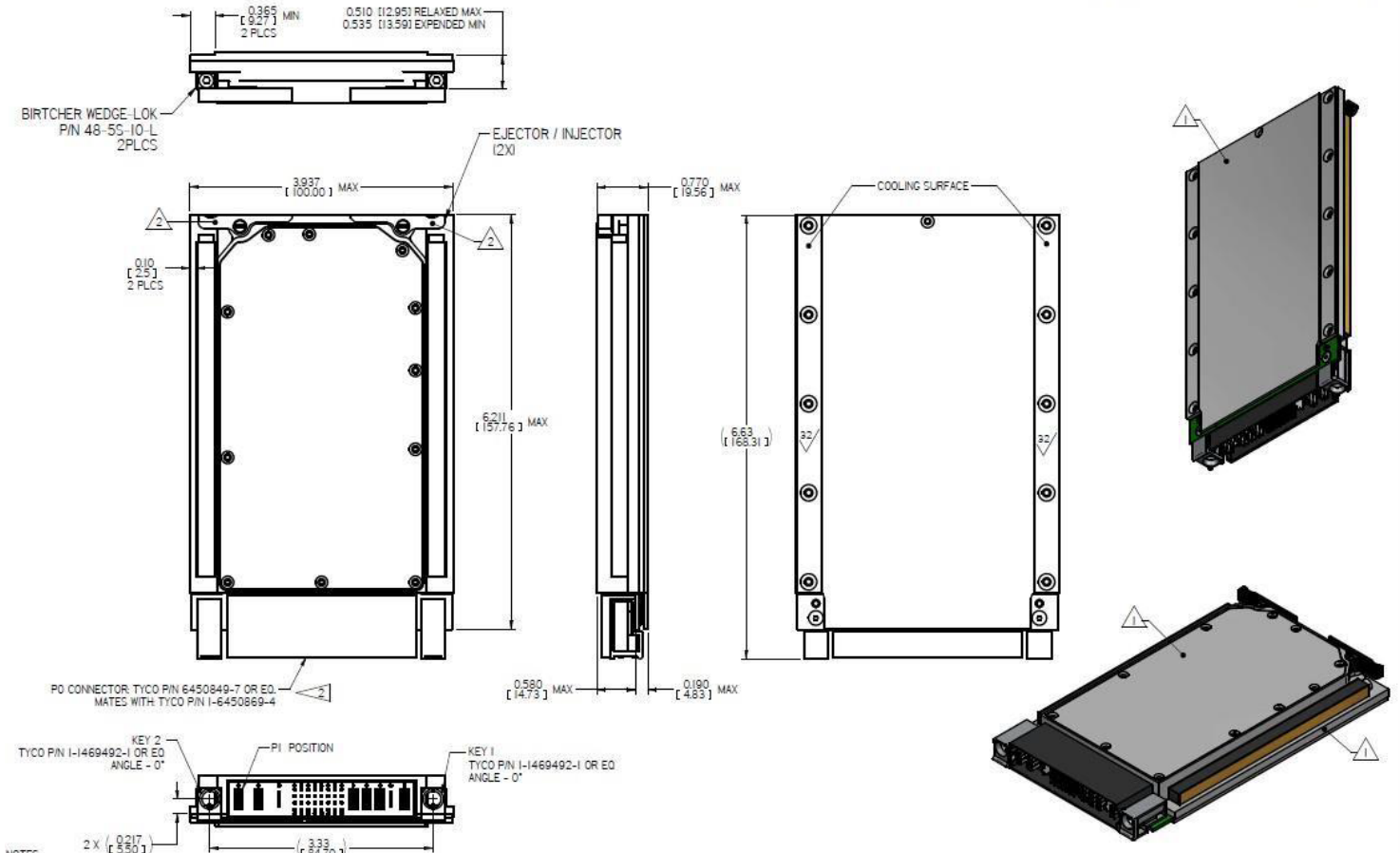
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Outline Drawing

REVISIONS					
ZONE	ECN	REV	DESCRIPTION	DATE	APPROVED
	R00000	-	RELEASED	24.07.18	BIW



- NOTES:
1. MAIN BODY AND COVERS:
MATERIAL: ALUMINUM ALLOY (6061-T651 & 5052-H32)
FINISH: CHEMICAL CONVERSION COATING MIL-DTL-5541, TYPE 1 OR 2, CLASS 1A
 2. EJECTOR / INJECTOR:
MATERIAL: ALUMINUM ALLOY (6061-T651)
FINISH: BLACK ANODIZE PER MIL-A-8625, TYPE 2, CLASS 2
 3. WORKMANSHIP SHALL BE MIL-STD-454, REQ. 9
 4. DRILL TAP & COUNTERSINK PER MC 33537

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE BY REQUIREMENT		SERIAL NO. SCD000503		Digital Power Flexible Power Solutions	
TOLERANCES ARE BY REQUIREMENT		REVISED DATE		TITLE	
FRACTIONAL DECIMALS		B.I.W. 10/25/2018		VITA 62, 3U	
DECIMALS		P.S. 01/25/2018		Vin: 18-36V, Vout: V01 - 12VDC, V02 - 3.3VDC, V03 - 5VDC	
DO NOT SCALE DRAWINGS		APPROVED A.S. 01/25/2018		C 00B7R6	
63 SURFACE ROUGHNESS		DRAWN BY		SCALE 1:1	
APP		CHECKED		SHEET 1 OF 1	
-11		M4050-1			
DRAWN BY		NEXT ASST			
CHECK		LIBR. ON			
FINAL		APPLICATION			
SELF ASSEMBLY					

Note: Specifications are subject to change without prior notice by the manufacturer.

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