VITA 62 VPX SOLUTIONS
DC/DC POWER SUPPLY

DPM4154 SERIES

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PRODUCT HIGHLIGHTS

- **VITA 62 COMPLIANT**
- **SOSA™ ALIGNED**
- **Compatible with 3UA/B 1.5” VITA 48.8 FORM FACTOR**
- **18 to 48VDC Standard Version Input**
- **UP TO 800 W**
- **OPERATING TEMP: –55°C to +85°C**
- **EMI: Compliant to MIL-STD-461G**
- **Environmental: MIL-STD-810**
- **Input Options:**
  - **MIL-STD-704**
  - **MIL-STD-1275**
  - **DEF-STAN 61-5**
- **Cyber secure**

Electrical Specifications

DC Input

18 to 48V_{DC} standard

Max Non-Operation 100Vdc

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-704(A-F) Transients Under 18V and Starting transients
4) MIL-STD-1275 Surges

Line/Load regulation

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, all Temperature Range.

Load Transient Overshoot and Undershoot

Output dynamic response of less than 5% at load Step of 30%-60%.

Output returns to regulation in less than 1mSec

DC Output

PO1 & PO3 (VS1): 12V up to 64A

PO2 (3.3VAux): 3.3V up to 15A

Current Sharing

12V A.C.S

3.3Vaux P.C.S (A.C.S optional)

Efficiency

Up to 91.5 % (see Para.4)

Normal Quiescent Current:

Inhibited Output: 193mA (3.3VAux Only)

Disabled Input: 112mA (All Outputs Off)

Isolation

Over 20 MΩ at test voltage:

200V between Input and Output

200V between Input and Case

100V between Output and Case

EMC

Qualified to:

MIL-STD-461G[1]

CE101, CE102, CS101, CS114, CS115, CS116

Notes:

1. Compliance achieved with 5µH LISN and static resistive load.

System management options:

1) I2C
2) Custom IPMI
3) VITA 46.11 Tier II IPMC

Data available:

- Output voltages and currents
- Input voltage
- Card temperature
- Card status

Environmental [1]

Design to Meet MIL-STD-810G

Temperature

Operating: –55°C to +85°C at unit edge. Contact factory for Air0Flow details
Storage: –55°C to +125°
Design to meet 600 thermal cycles

Fungus

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

Altitude

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

Humidity

Method 507.5, Up to 95%

Salt Fog:

Method 509.5

Shock

Method 516.6
40g, 11msec saw-tooth (all directions)

Vibration

Vibration: Figure 514.6E-1. General minimum integrity exposure. (1 hour per axis.)

Reliability: 481,000 Hours, calculated IAW MIL-HDBK-217F Notice 2 at +65 °C, GF.

Note 1: ***Environmental Stress Screening (ESS)*** Including random vibration and thermal cycles is also available. **Please consult factory for details.**

Protections [1]

Input

- **Inrush Current Limiter**
  Peak value of 5 x I_{IN} for initial inrush currents lasting more than 50µSec.
- **Under Voltage**
  Unit shuts down when input steady state voltage drops below 17± 0.5V_{DC}.
  Automatic restart when input voltage returns to nominal range.
  Low Line Transient TBD time protection is optional.
- **Input Overvoltage Protection**
  Unit shuts down when input steady state voltage rise above 55/85 ± 2V_{DC}.
  Automatic restart when input voltage returns to nominal range.

Output

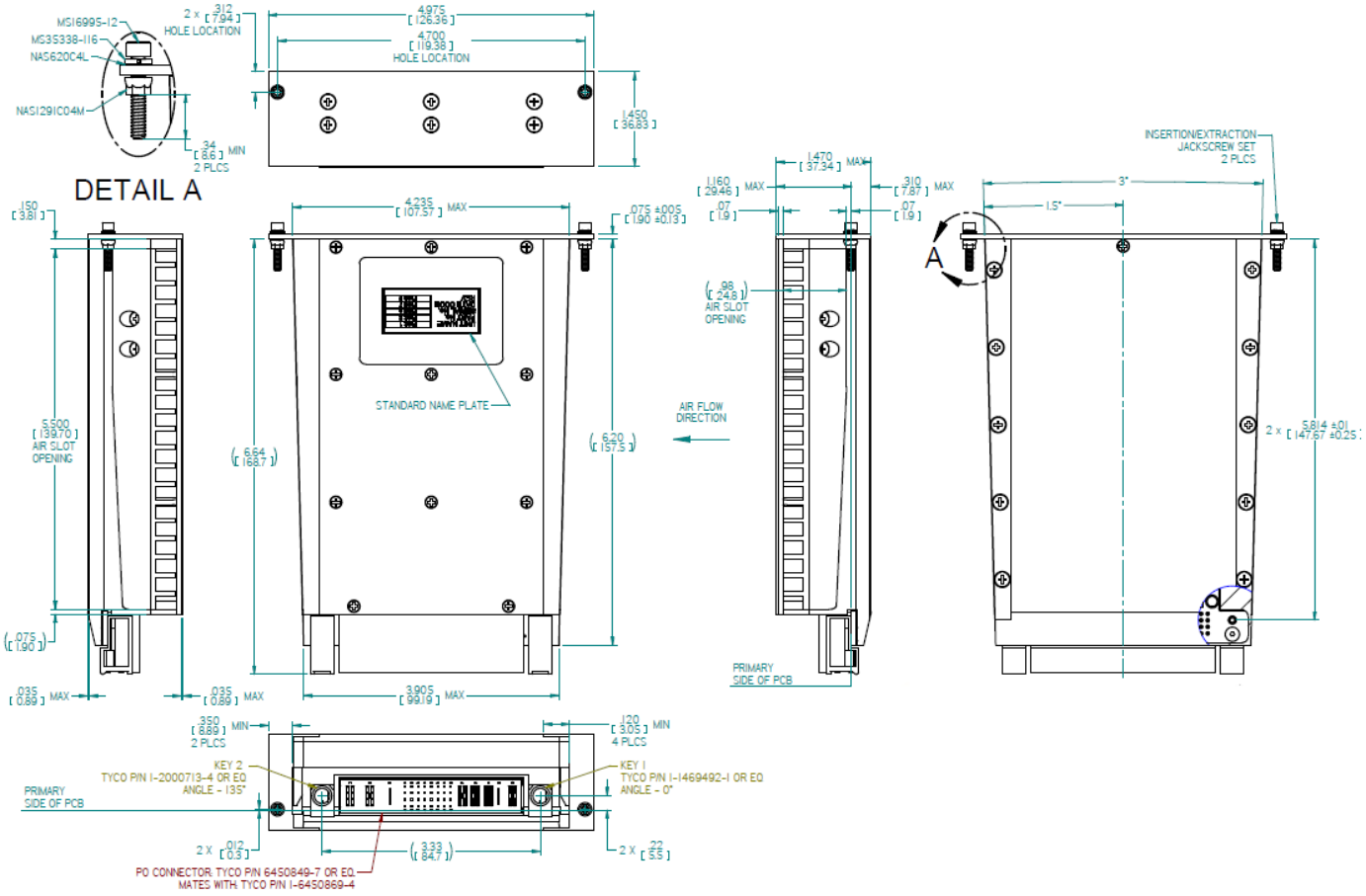
- **Passive over voltage protection on 3.3VAux**
  3.9V Zener.
- **Active over voltage protection on 12V output**
  20% ± 5% above nominal voltage.
  Automatic recovery when output voltage drops below threshold.
- **Overload / Short-Circuit protection**
  Continuous protection (10-30% above maximum current) for unlimited time (Hiccup).
  Automatic recovery when overload/short circuit removed.

General

- **Over Temperature Protection**
  Automatic shutdown
  at internal temperature of 95 ± 5°C.
  Automatic recovery when temperature drops below 90 ± 5°C.

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

Outline Drawing



NOTES :

1. TERIAL:

1.1. MAIN BODY, HEAT SINK, AND BOTTOM COVER:
ALUMINUM 6061, THERMAL TREATMENT T651 / T6511
PER ASTM B211/ B209 / B221

1.2. TOP AND FRONT COVERS:
ALUMINUM 5052 THERMAL TREATMENT H32
PER ASTM B209

2. INISH: CHEMICAL CONVERSION COATING MIL-DTL-5541,TYPE 1, CLASS 1A
3. ORKMANSHIP SHALL BE MIL-STD-454, REQT. 9

About Digital Power

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