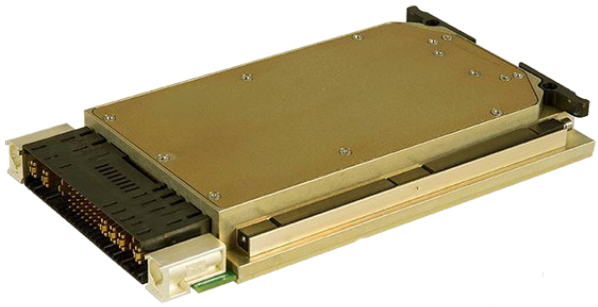
FIELD-PROVEN COTS, MOTS AND CUSTOM MILITARY POWER SOLUTIONS

DPM4054 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- VITA 62 COMPLIANT
- SOSA™ ALIGNED
- 3U FORM FACTOR
- 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

AS9100D CERTIFIED ISO 9001

NIST 800-171 Compliant

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Ver. 1.0

Electrical Specification

DC Input:

- 18V to 48V DC
  (Turn-on at Input voltage below 21V. Turn off after 10Sec under 22V Line) [1]
- Optional: support All Over Voltage Transient Up to 100V

Notes:
1. Full 704 Compliance at Sec 3.5.1.1
2. hen Calling for LISN, 5µH is used

DC Outputs:

- VS1: 12V / 64A
- 3.3Vaux: 3.3V / 15A

Isolation:

- 200V Input to Output & Chassis.
- 100V Output to chassis

Line Load Regulation

- 12V Output 11.85V to 12.15V
- 3.3V Output 3.28V to 3.42V, 3.25V to 3.45V parallel-PCS.

Efficiency

Up to 92%.

EMC

Mil-STD-461G 5µH LISN[1]
CE101, CE102, CS101, CS114, CS114, CS115, CS116
Notes: All tests performed with Static resistive Load.

Ripple and Noise

Typical less than 50mV (max 1%).
across 0.1µF capacitor with 10 µF on Load.
Note: under all temperature range, Input voltage 18V to 36V.

System Management Options:

- Simplified IPMI
- IPMC Tier 2
  (Tier 3 Upgradable)

Typical Quiescent Current

- Inhibited Output 290mA
  (28V Input, 3.3Vaux only).
- Disabled Outputs 145mA
  (28V Input, Outputs Off).

Load Transients

Outputs dynamic response less than 5% for Load steps 60% - 90%.
Outputs returns to regulation <1mSec.

Protections

Input Current Inrush:

- Bus capacitance ≈ 600µF.
- Output Turn-on inrush Input current < 1A

Outputs Over Voltage

- 12V Active OVP
- 3.3Vaux 3.9V Zener

Over Load Protection:

Hiccup Over-load / Short Circuit Protection. Typically, 110%-130% Load.

Input Under /Over Voltage Protection

- Turn-off above 50V.
- Turn-off under 18V.
- Turn-off after 10Sec below 22V.
  Note: T.H can be modified.

Over Temperature Protection

Thermal shutdown at Unit temperature of 90-105°C.
Auto Recovery 90±5°C (unit Edge, wedge lock side)

Environmental Specification.

VITA 47.1 CC4/CCW6 NT4 V3 OS2 C4 AV2 SF1/SF3 CS5

Temperature:

- Operational -55C° to 85C° unit edge, -55C° to 71C° cold wall.
- Exceed Vita 47 CC4.
- Storage -55C° to 125C°
- Qualified 600 Thermal Cycles
  Note: Plug-in unit edge surface temperature is measured on the plug-in unit

Altitude:

Mil-STD-810G Method 500.5 procedure I & II

- Storage / Air Transport: 40kft
- Operation / Air carriage: 70kft

Rapid Decompression

Designed to meet per Vita 47.1

Corrosion Resistance

- Mil-STD-810G, Method 509.5.
- VITA47 Class SF1, SF3
- VITA47 Class SF2 TBD

Fungus

Does not support Fungus growth per Mil-HDBK-454, Guideline 4.

Humidity

- Mil-STD-810G, Method 507, up to 95% RH.
- Optional:100% condensation, consult factory.

Vibration & Shock

- Vita47 Vibration Class V3.
- Vita 47 Operational Shock Class OS2
- Vita 47 Bench Handling Shock (Connector not protected, may be damaged).

Reliability

481,000 Hours,
calculated IAW MIL-HDBK-217F Notice 2
at +65 ℃, GF

ESS

Environmental Stress Screening available, please contact factory for details

Signals

Fail bit & SYSTEM RESET

Unit has two dedicate Fault signals:

Fail BIT: Indicates that one of the power supply outputs is out of its range, in respect to the expected value depending on Inhibit & Enable status.

Open drain output (Per VITA 65), Normally Open and goes Low during Fail event.

SYSTEM RESET: Indicates that one of the power supply outputs is out of its nominal range.

Open drain output (Per VITA 65), Normally Open and goes Low when output is out of nominal range.

Note: for the M4054 this BIT standard configuration is as “Output”.