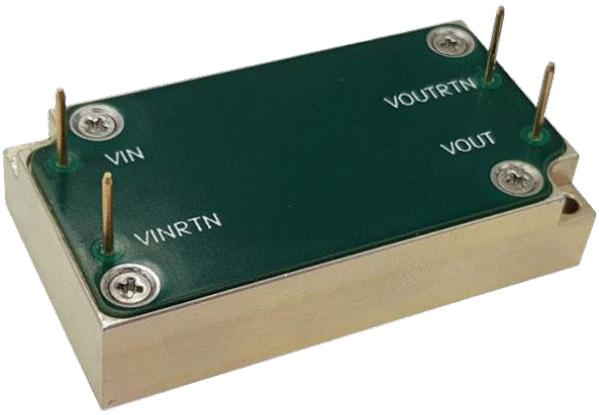
M7117 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- MINIATURE
- HIGH DENSITY
- SINGLE OUTPUT
- PIN INTERFACE
- DC/DC POWER SUPPLY
- UP TO 15 W

John Tucci • Phone: (607) 563-5388 • Email: jtucci@amphenol-aao.com
• www.amphenol-aerospace.com

Amphenol
MILITARY HIGH SPEED

M7117 SERIES DC/DC POWER SUPPLY

Applications

Military, Ruggedized, Telecom, Industrial Power Supplies

Special *Features*

- Extremely Miniature size
- High power density: up to 12.2 W/in^3
- High efficiency
- Input / Output isolation
- Fixed switching frequency (250 kHz)
- EMI filters included
- Non-latching protections:
  - Input under/overvoltage lockout
  - Overload/short-circuit protection
  - Output overvoltage protection
  - Over temperature shutdown

Environmental Conditions

Designed to Meet MIL-STD-810F

Temperature
Methods 501.4 & 502.4
Operating: –55 ° C to +85 °C (at baseplate)
Storage: –55 °C to +125 ° C (ambient)

Vibration
Method 514.5
Procedure I
Category 24 - General minimum integrity exposure

Altitude
Method 500.4
Procedures I – Storage/Air transport: up to 70 kft
Procedure II – Operation/Air Carriage: up to 70 kft

Shock
Method 516.5
30 g, 11 ms terminal peak saw-tooth

Humidity
Method 507.4
Up to 95% RH

Salt Fog
Method 509.4

* EMC Compliance achieved with 5µH LISN, shielded harness and static resistive load.
Depending on the actual configuration, an external filter may be required for full compliance.

Reliability

At least 150,000 hours
calculated IAW MIL-HDBK-217F Notice 2
at +85°C baseplate, Ground Fix conditions.

Electrical Specifications

DC INPUT

Normal voltage range: 18 to 48 V_{DC}

Abnormal transient protection:
No damage (may shut down) when exposed to abnormal surges IAW MIL-STD-1275A (100 V for 50 ms) and MIL-STD-704A (80 V for 0.1 s)

Efficiency: Up to 82%

EMC: Designed to meet* MIL-STD-461F:
CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103

Isolation:
Input to Output: 200 V_{DC}
Input to Case: 200 V_{DC}

DC OUTPUT (floating)

Voltage Regulation: Up to ±1%
(no load to full load, –46 °C to +85 °C)

Ripple and Noise: 50 mV_{p-p}, typical (max. 1%)

Current Limiting (Hiccup):
Continuous protection for unlimited time

Over Voltage Protection:
Passive transorb on output.

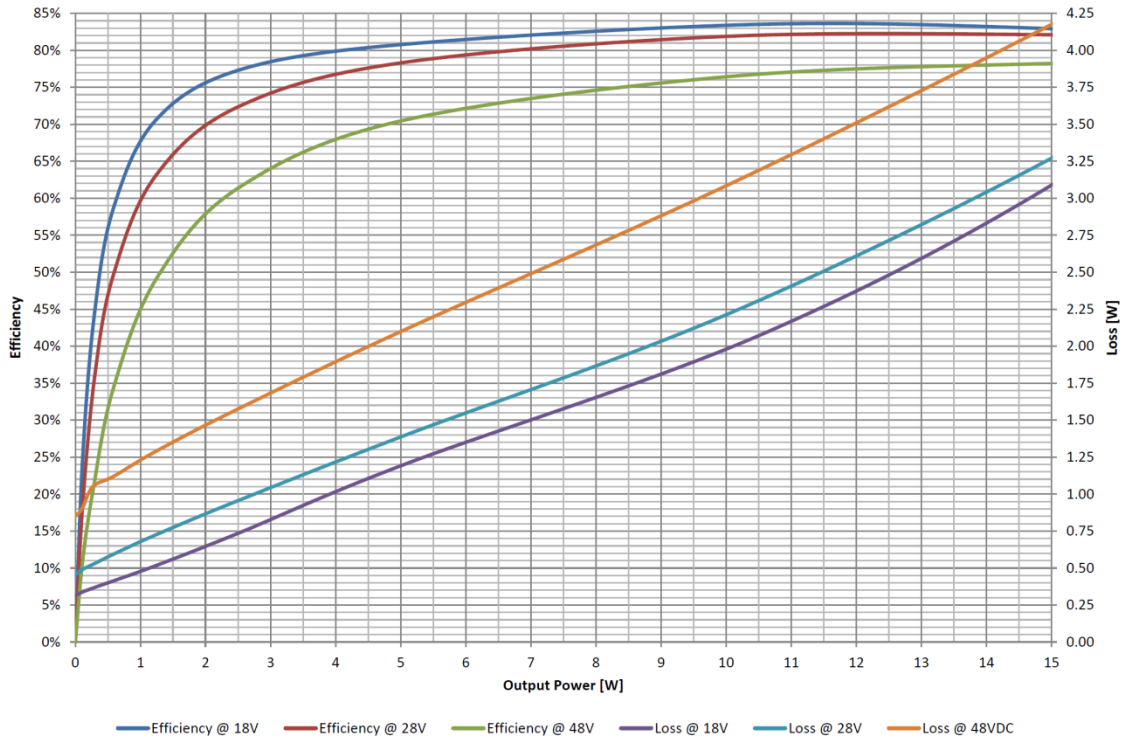
Over Temperature Protection:
Shutdown if baseplate temperature exceeds +105 °C ± 5 °C.
Automatic recovery when baseplate temperature returns to below +95 °C ± 5 °C.

Isolation:
Output to Case: 100 V_{DC}

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Efficiency Plot

M7117-100 variant (5 V_{DC} / 3 A):

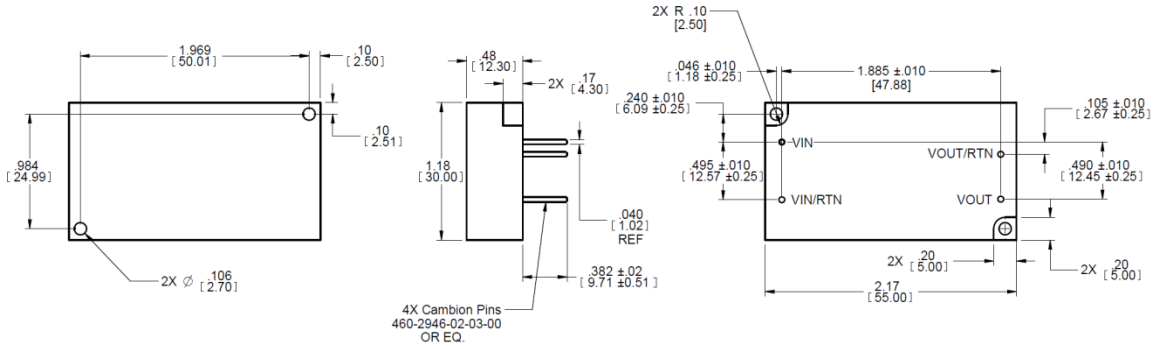


Pin Assignment

Pin No.	Pin Name	Description	Polarity
1	*VOUT*	*Output*	*+*
2	*VOUT RTN*	*Output Return*	*–*
3	*VIN*	*Input*	*+*
4	*VIN RTN*	*Input Return*	*–*

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M7117 SERIES DC/DC POWER SUPPLY



Notes

1. Dimensions are in inches [mm]
2. Tolerance is:
   .XX ±.02 in.
   .XXX ±.01 in.
3. Weight: approx. 1.06 oz (30 g)

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Standard Configurations

Part number	Input voltage range	Output Voltage	Output Current
M7117100	18 to 48 V_{DC}	5 V_{DC}	3 A
M7117101	18 to 48 V_{DC}	12 V_{DC}	1.25 A
M7117102	18 to 48 V_{DC}	15 V_{DC}	1 A
M7117103	18 to 48 V_{DC}	24 V_{DC}	0.6 A

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

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