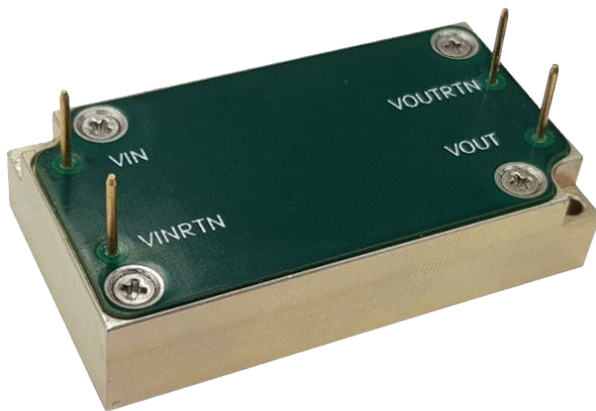


M7117 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

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



Applications

Military, Ruggedized, Telecom, Industrial Power Supplies

Special Features

- Extremely Miniature size
- High power density: up to 12.2 W/in³
- 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

Meets or exceeds MIL-STD-810F

Temperature:

Operating -46 °C to +85 °C (baseplate)

Storage -55 °C to +125 °C

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.

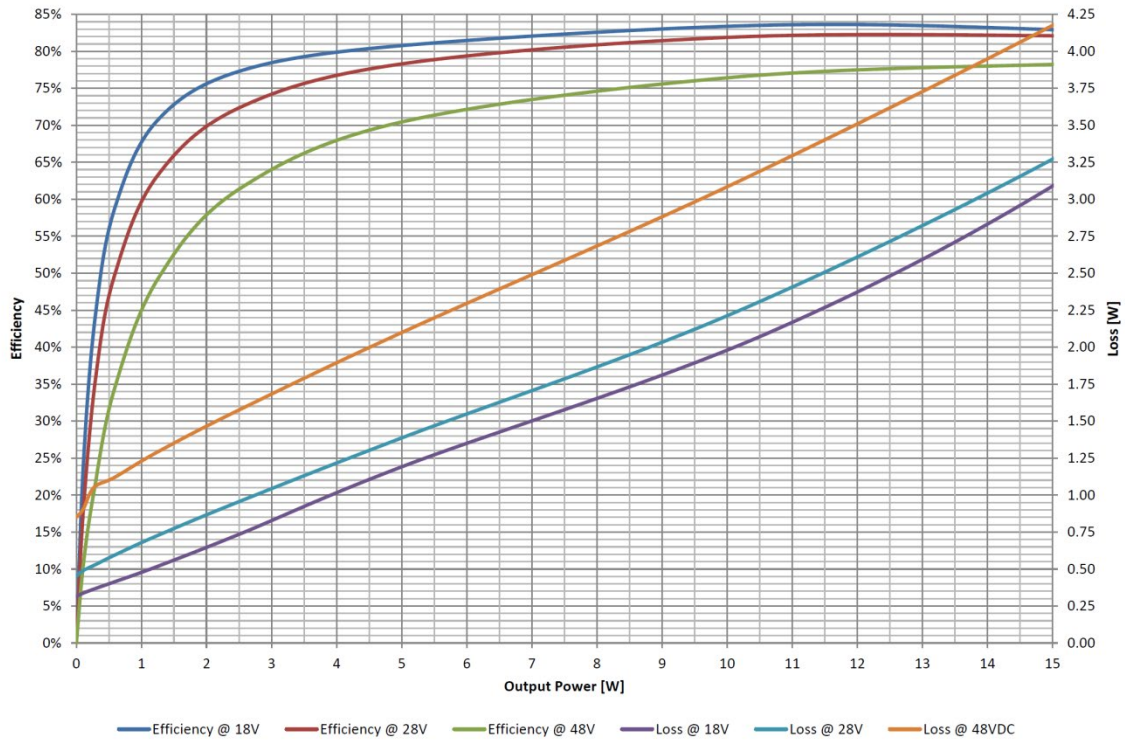
Isolation:

Output to Case: 100 V_{DC}

* 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.

Efficiency Plot

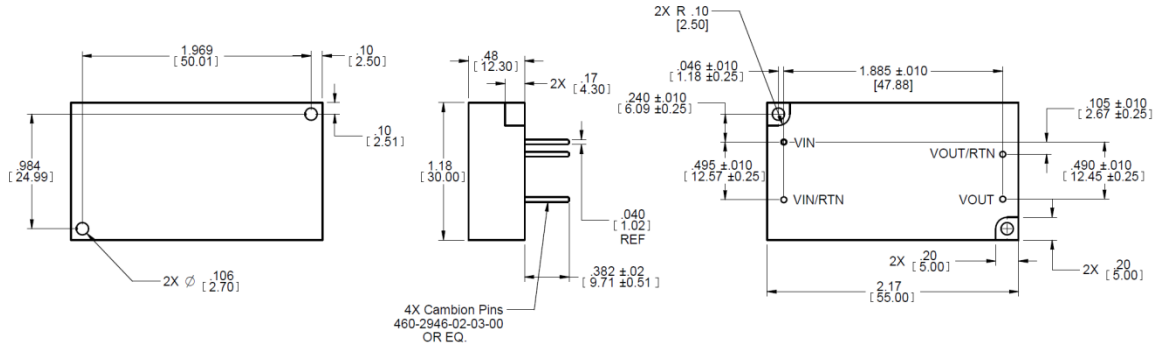
M7117-100 variant (5 V_{DC} / 3 A):



Pin Assignment

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

Outline Drawing



Notes

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

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

Standard Configurations

| Part number | Input voltage range | Output Voltage | Output Current |
|-------------|--------------------------|--------------------|----------------|
| M7117-100 | 18 to 48 V _{DC} | 5 V _{DC} | 3 A |
| M7117-101 | 18 to 48 V _{DC} | 12 V _{DC} | 1.25 A |
| M7117-102 | 18 to 48 V _{DC} | 15 V _{DC} | 1 A |
| M7117-103 | 18 to 48 V _{DC} | 24 V _{DC} | 0.6 A |