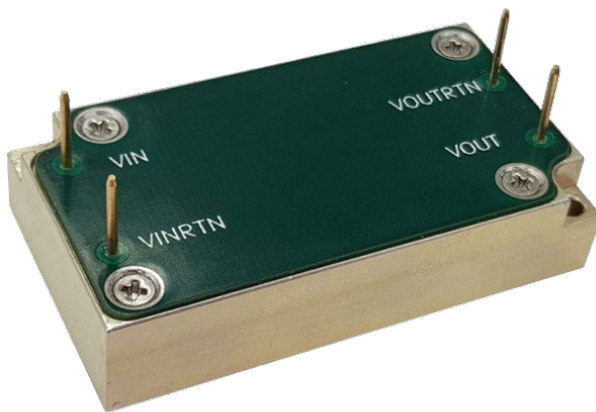


## M7117 SERIES

*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 Supply

## Special Features

- Extremely Miniature size
- High power density: up to 12.2 W/in<sup>3</sup>
- 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 -55 °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<sub>DC</sub>

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<sub>DC</sub>

Input to Case: 200 V<sub>DC</sub>

### DC OUTPUT (floating)

Voltage Regulation: Up to ±1%  
(no load to full load, -55 °C to +85 °C)

Ripple and Noise: 50 mV<sub>p-p</sub>, 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.

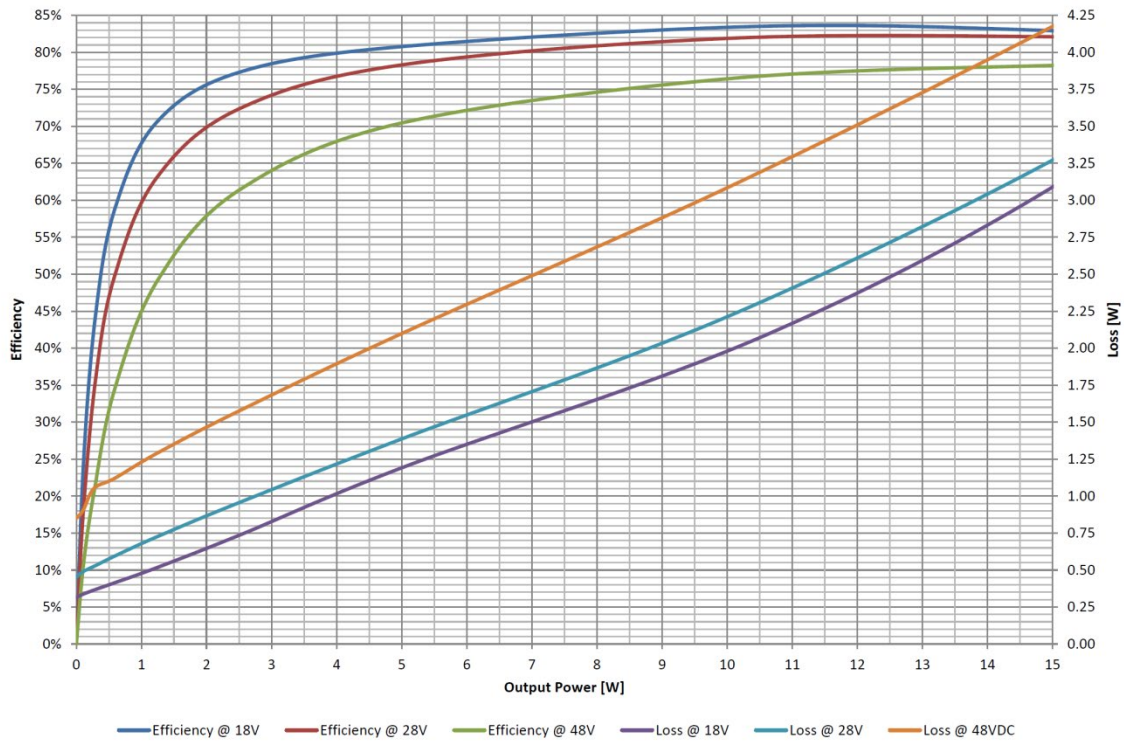
Isolation:

Output to Case: 100 V<sub>DC</sub>

\* 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**

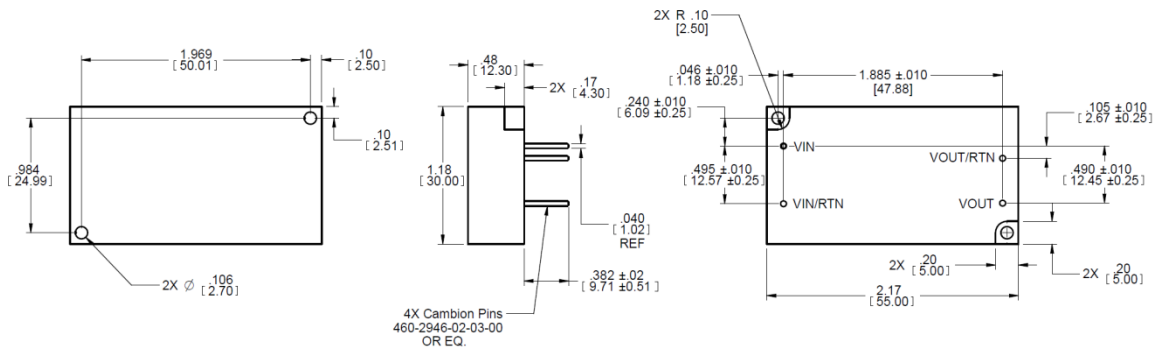
**M7117-100 variant (5 V<sub>DC</sub> / 3 A):**



**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  $\pm$ .02 in.  
 .XXX  $\pm$ .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 <sub>DC</sub> | 5 V <sub>DC</sub>  | 3 A            |
| M7117-101   | 18 to 48 V <sub>DC</sub> | 12 V <sub>DC</sub> | 1.25 A         |
| M7117-102   | 18 to 48 V <sub>DC</sub> | 15 V <sub>DC</sub> | 1 A            |
| M7117-103   | 18 to 48 V <sub>DC</sub> | 24 V <sub>DC</sub> | 0.6 A          |