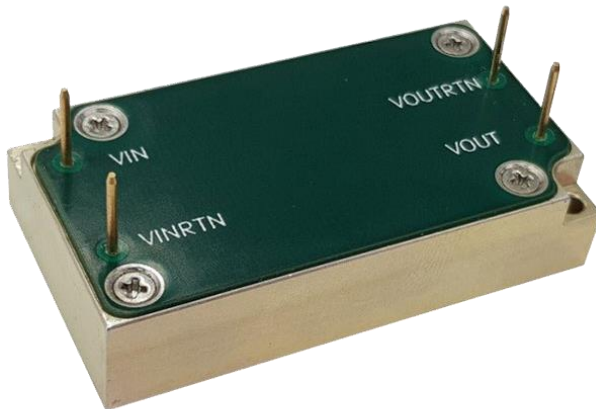


## M7117 SERIES

DC/DC POWER SUPPLY



### PRODUCT HIGHLIGHTS

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

## M7117 SERIES DC/DC POWER SUPPLY

### 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

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 5 $\mu$ H 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<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  $\pm 1\%$

(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  $\pm$  5 °C.

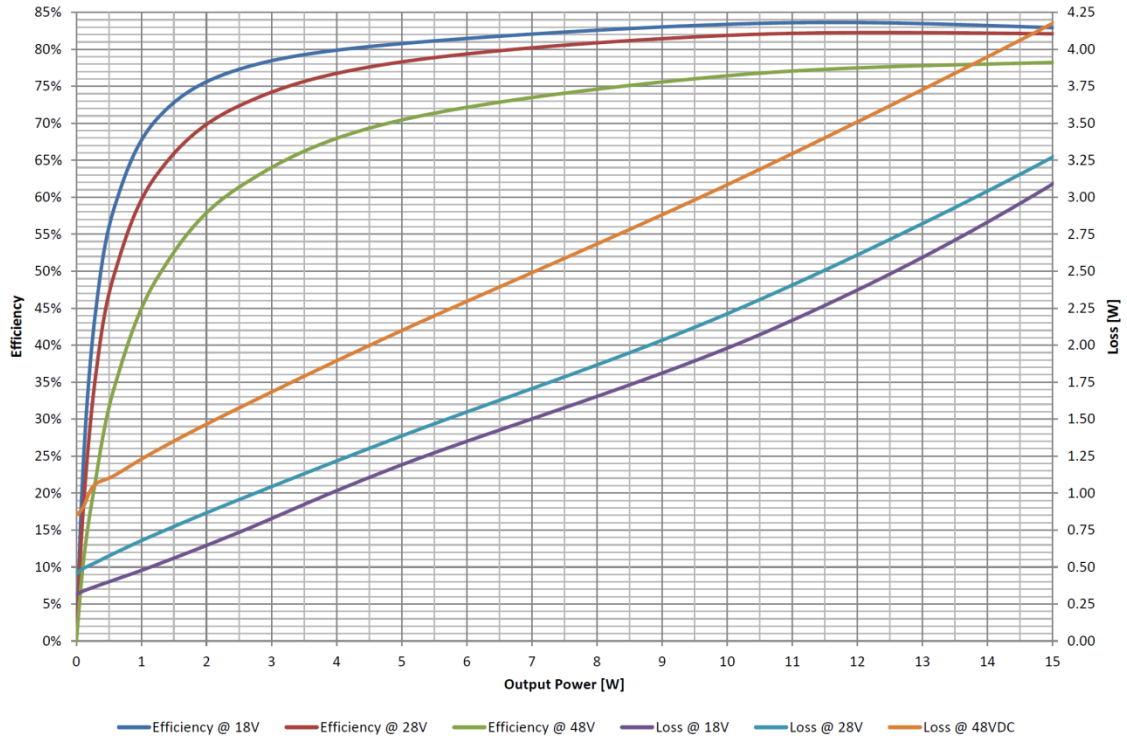
Automatic recovery when baseplate temperature returns to below +95 °C  $\pm$  5 °C.

Isolation:

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

## Efficiency Plot

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

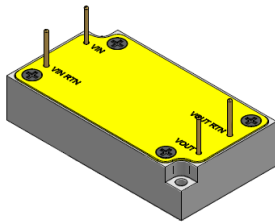
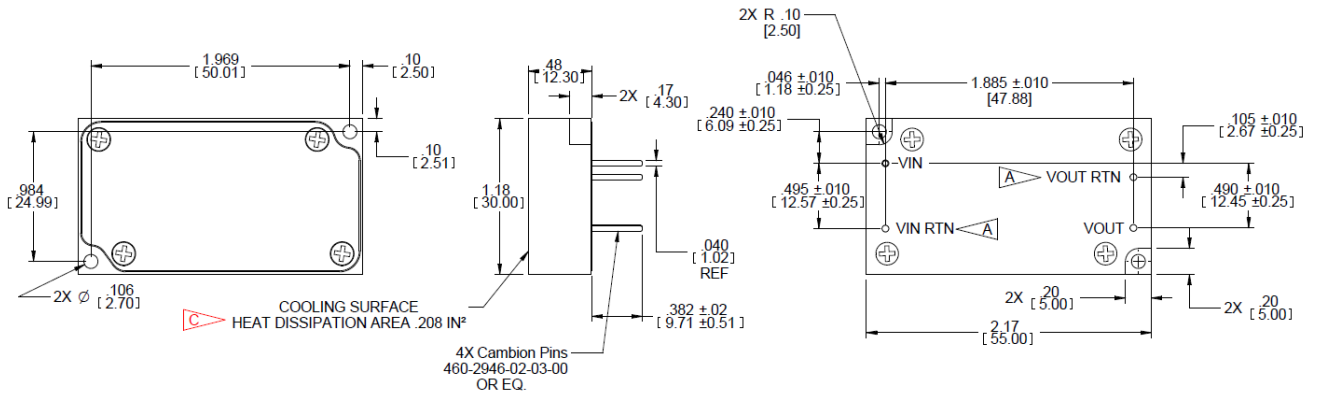


## Pin Assignment

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

**M7117 SERIES DC/DC POWER SUPPLY**

**Outline Drawing**



2:1

**NOTES :**

1. WORKMANSHIP SHALL BE MIL-STD-454, REQT. 9.
2. MTL. AL 6061-T651, AL 5052-H32.
3. FINISH: CHROMATE CONVERSION COATING PER MIL -DTL-5541, LAST REVISION, TYPE I, CLASS 1A.

Notes

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

**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

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