

M8149 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- **MINIATURE**
- **HIGH DENSITY**
- **QUAD OUTPUT**
- **UP TO 60W**

M8149 Series– DC/DC Power Supply

APPLICATIONS

Military, Ruggedized, Telecom, Industrial

SPECIAL FEATURES

- Miniature size
- High efficiency
- Wide input range
- Input / Output isolation
- Fixed switching frequency (250 kHz)
- TTL logic enable
- EMI/RFI filters included
- Indefinite short circuit protection with auto-recovery
- Input over-voltage shutdown with auto-recovery
- Over temperature shutdown with auto-recovery

ENVIRONMENTAL

Meets or exceeds MIL-STD-810D

Temperature:

Operating -55°C to $+85^{\circ}\text{C}$ (baseplate)

Storage -55°C to $+125^{\circ}\text{C}$

RELIABILITY

150,000 hours, calculated per

MIL-STD-217F at $+85^{\circ}\text{C}$ baseplate, ground fixed.

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

ELECTRICAL SPECIFICATIONS

DC INPUT

DC Input range: 18 to 48 VDC

Input transient protection:

All modules meet or exceed (no damage)

MIL-STD-1275A (100V for 50 mSec) and

MIL-STD-704A, MIL-STD-704D (80V for 0.1 Sec)

Over-voltage shutdown with auto-recovery

Efficiency: Up to 80%

EMC:

Designed to meet MIL-STD-461F*

CE101, CE102, CS101, CS114, CS115,

CS116, RE101, RE102, RS101, RS103

Isolation:

200V between Input and Output

200V between Input and Case

DC OUTPUT (floating)

Line/Load regulation:

Less than $\pm 2\%$ (no load to full load, -55°C to $+85^{\circ}\text{C}$)

Ripple and Noise: 50mVp-p, typical (max. 1%)

Current limiting:

Continuous protection for unlimited time

Over voltage protection:

Passive tranzorb on output.

Over temperature protection:

Shutdown at baseplate temperature of $+100^{\circ}\text{C}$ ($\pm 5^{\circ}\text{C}$)

Automatic recovery at baseplate

temperature lower than $+90^{\circ}\text{C}$ ($\pm 5^{\circ}\text{C}$)

Isolation:

200V between Output and Input

100V between Output and Case

* EMC compliance achieved when tested with 5 μH LISNs, shielded harness and static resistive load.

Functions and Signals

INHIBIT

The **INHIBIT** signal is used to turn the power supply ON and OFF.
TTL “1” or OPEN – Power supply is ON (For normal operation, leave this pin unconnected.) TTL “0” or SHORT to **SIGNAL RTN** – Power supply is OFF.

SYNC

The **SYNC** signal is used to allow the power supply's switching frequency to sync with the system clock. The external clock's frequency can be 250 kHz \pm 10 kHz.
When this pin is left open (unconnected) the power supply will synchronize to its internal clock, set at 250 kHz \pm 10 kHz.

SIGNAL RTN

The **SIGNAL RTN** is used as a return path for the **SYNC** and **INHIBIT** signals. This pin is referenced to **VIN RTN**.

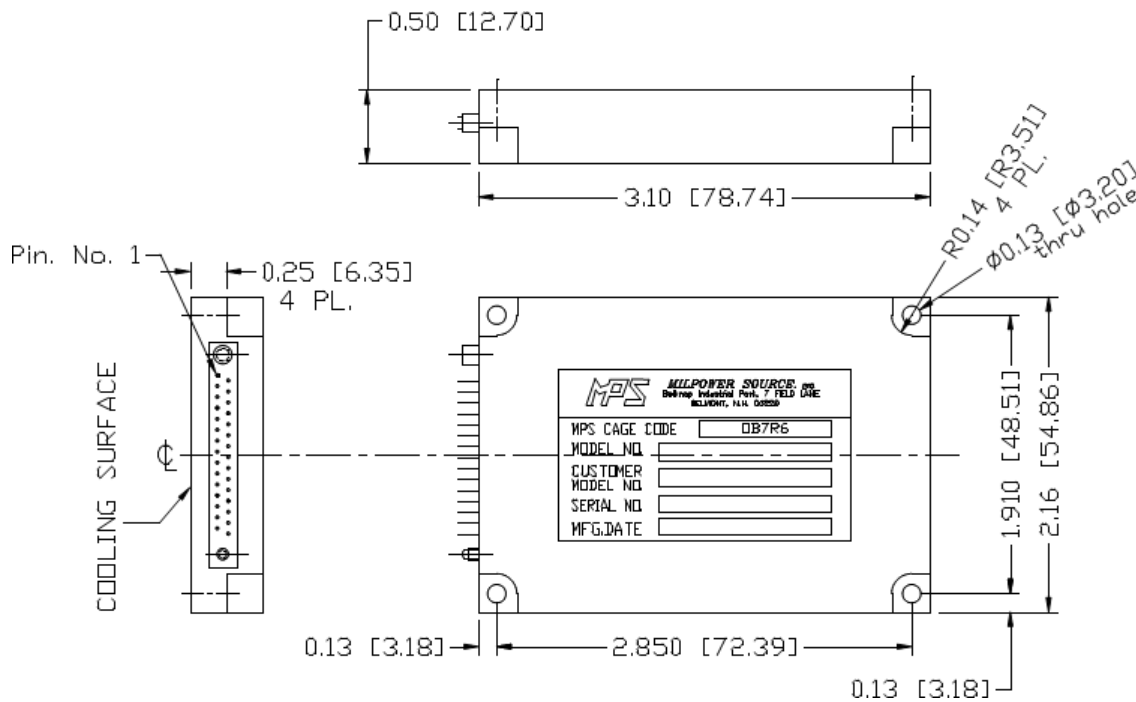
PIN ASSIGNMENT

| PIN No. | PIN Function |
|--------------------|--------------|
| 10, 11, 24, 25, 26 | + VIN |
| 7, 8, 9, 22, 23 | VIN RTN |
| 29, 30 | + OUT 1 |
| 14, 15 | - OUT 1 |
| 4, 19 | + OUT 2 |

| PIN No. | PIN Function |
|---------|--------------|
| 3, 18 | - OUT 2 |
| 12, 27 | + OUT 3 |
| 13, 28 | - OUT 3 |
| 5, 20 | + OUT 4 |
| 6, 21 | - OUT 4 |

| PIN No. | PIN Function |
|---------|--------------|
| 16 | SYN IN |
| 17 | SIGNAL RTN |
| 1 | INHIBIT |
| 2 | CHASSIS |

OUTLINE DRAWING



Connector Type: RM272-030-312-2900 or Eq.

Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:
.XX ± 0.01IN
.XXX ± 0.005 IN
3. Weight: Approx. 3.5 oz (100 g.)

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