

# M7874 SERIES

## DC/DC POWER SUPPLY



### PRODUCT HIGHLIGHTS

- **MINIATURE**
- **HIGH DENSITY**
- **QUAD OUTPUTS**
- **DC/DC CONVERTER**
- **UP TO 50W**

## M7874 SERIES DC/DC POWER SUPPLY

### Applications

Military, Ruggedized, Telecom, Industrial Power Supply

### Special Features

- Miniature size
- High efficiency
- High density: Up to 12.5 W/in<sup>3</sup>
- Wide input range
- Input / Output isolation
- Fixed switching frequency (250 kHz)
- EMI filters included
- Remote inhibit (On/Off) function.
- Over-voltage protection
- Indefinite short circuit protection with auto-recovery
- Over temperature shutdown with auto-recovery

### Environmental Conditions

Meets or exceeds MIL-STD-810D

#### Temperature:

Operating: -55 °C to +85 °C (baseplate)

Storage: -55 °C to +125 °C

### Reliability

150,000 hours, calculated IAW MIL-HDBK-217F

Notice 2 at +85 °C baseplate, Ground fix environment.

### Electrical Specifications

#### DC INPUT

Input voltage range: 18-36 V<sub>DC</sub>

Over-voltage and under-voltage lockout: Electronic shutdown with automatic recovery

Efficiency: 80% typical (measured at nominal input voltage, maximum output current and standard room temperature)

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

#### Isolation:

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

#### DC OUTPUT (floating from input)

#### Line/Load regulation:

Less than ±1% (no load to full load, -55 °C to +85 °C and over input voltage range) Ripple

#### and Noise:

50 mV<sub>p-p</sub>, typical (up to 1% of nominal value)

#### Current limiting (Hiccup):

Continuous protection for unlimited time

#### Over-voltage protection:

Passive transorbs on outputs.

#### Over temperature protection:

Shutdown if baseplate temperature exceeds +105 °C ± 5 °C.

Automatic recovery upon cooldown 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

## ***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**.

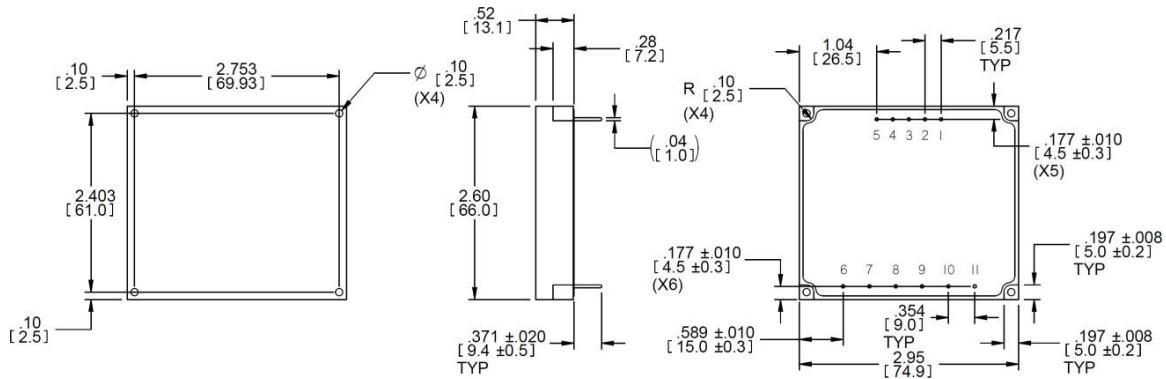
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## Pin Assignment

Pin No.	Pin Function
1	IN
2	IN RTN
3	SYNC
4	SIGNAL RTN
5	INHIBIT
6	OUT 1
7	OUT 1 RTN
8	OUT 4
9	OUT 2, 3, 4 RTN
10	OUT 3
11	OUT 2

\***SIGNAL RTN** is referenced to **IN RTN**.

## Outline Drawing



### Notes

1. Dimensions are in inches [mm]
2. Tolerance is:  
.XX ± 0.01 in  
.XXX ± 0.005 in
3. Weight: Approx. 3.52 oz [100 g]

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