M7874 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

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

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Amphenol
MILITARY HIGH SPEED

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^3
- 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_{DC}

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_{DC} Input to Case 200V_{DC}

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_{p-p}, 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_{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

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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 ± 10 kHz.
When this pin is left open (unconnected) the power supply will synchronize to its internal clock, set at 250 kHz ± 10 kHz

SIGNAL RTN

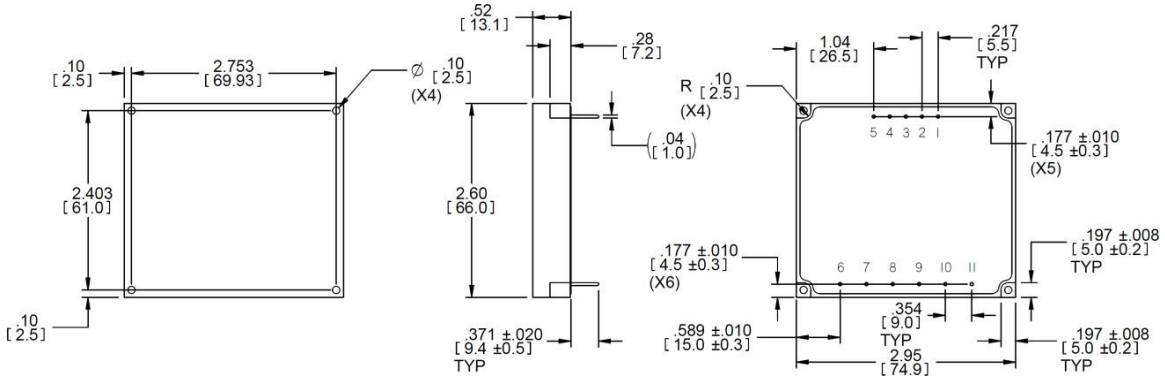
The ***SIGNAL RTN*** is used as a return path for the ***SYNC*** and ***INHIBIT*** signals. This pin is referenced to ***VIN RTN***.

Pin Assignment

Pin No.	Pin Function
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

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