

M8337 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- **MINIATURE**
- **HIGH DENSITY**
- **TRIPLE OUTPUT**
- **DC/DC CONVERTER**
- **UP TO 125W**

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Applications

Military, Ruggedized, Telecom, Industrial Power Supply

Special Features

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

Environmental Conditions

Designed to meet MIL-STD-810F

Temperature:

Operating -55 °C to +85 °C
(baseplate) Storage –
55 °C to +125 °C

Altitude:

Method 500.4, Procedures I & II up to
70 000 ft. Operational

Humidity:

Method 507.4 - Up to 95% RH
(including condensation)

Salt Fog:

Method

509.4

Vibration

and Shock:

Shock: Saw-tooth, 20 g peak, 11 ms.
Vibration: Figure 514.5C-17 general
minimum integrity exposure (1 hour
per axis)

Reliability

150,000 hours, calculated IAW MIL-HDBK-
217F Notice 2, at +85 °C baseplate,
Ground Fixed.

Electrical Specifications

DC INPUT

Normal voltage range: 18 to
70 V_{DC} Option: 12 to 70 V_{DC} –
consult factory

Abnormal transient protection:

No damage (may shut down) when exposed
to abnormal transients IAW MIL-STD-1275A
(100 V for 50 ms) and MIL-STD-704A (80 V
for 0.1 s)

Efficiency: up to 80%

EMC: Designed to meet* MIL-STD-461F

CE101, CE102, CS101, CS114, CS115,
CS116, RE101, RE102, RS101, RS103

Isolation:

Input to Output:
200 V_{DC} Input to
Case: 200 V_{DC}

DC OUTPUT (floating)

Line/Load regulation:

Up to ±1% (no load to full load, -55 °C to
+85 °C) Ripple and Noise: 50 mV_{p-p}, typical

(max. 1%) 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.

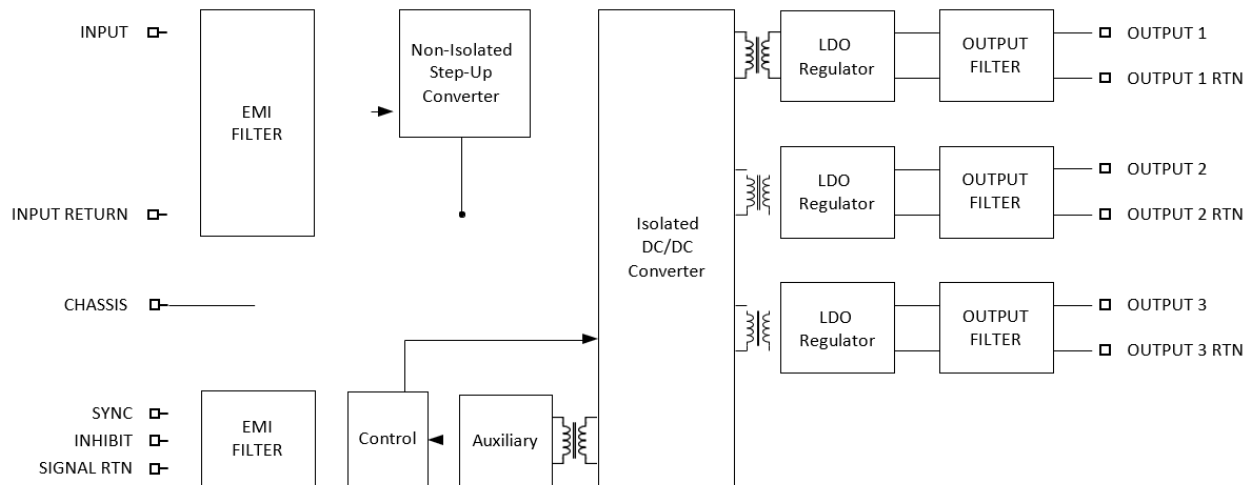
Isolation:

Output to Case: 100 V_{DC}

* Compliance achieved with 5µH
LISN, shielded harness and static resistive
load.

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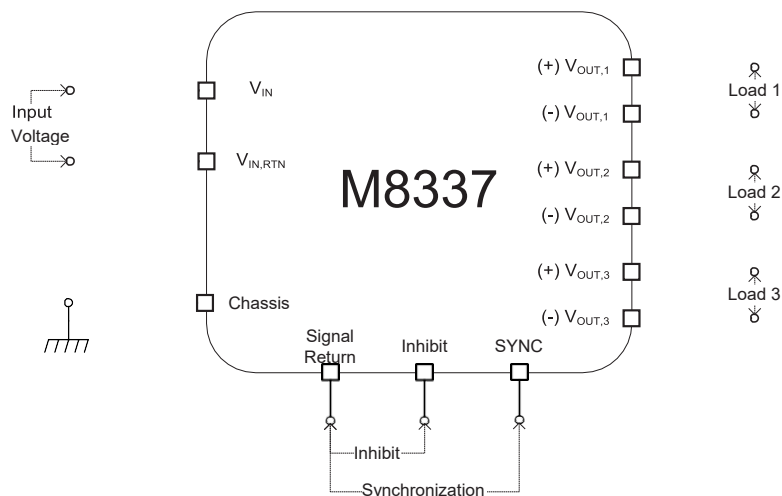
Operational Block Diagram



Outputs Range

Output #	Voltage Range	Current Range	Power Range
1	3.3 to 28 V _{DC}	0 to 10 A	0 to 50 W
2	3.3 to 28 V _{DC}	0 to 6 A	0 to 50 W
3	7 to 28 V _{DC}	0 to 6 A	0 to 50 W
Total			0 to 125 W

Typical Connection Diagram



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Pin Assignment*

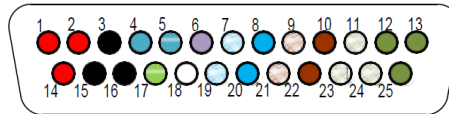
Connector type: M24308/24-39F or eq.

Mates with: M24308/2-3F or eq.

Pin No.	Function	
1	VIN (+)	●
2	VIN (+)	●
3	VIN RTN (-)	●
4	INHIBIT	●
5	SIGNAL RTN	●
6	SYNC	●
7	OUT 3 RTN (-)	○
8	OUT 3 (+)	●
9	OUT 2 RTN (-)	○

Pin No.	Function	
10	OUT 2 (+)	●
11	OUT 1 RTN (-)	○
12	OUT 1 (+)	●
13	OUT 1 (+)	●
14	VIN (+)	●
15	VIN RTN (-)	●
16	VIN RTN (-)	●
17	CHASSIS	●
18	N.C.	

Pin No.	Function	
19	OUT 3 RTN (-)	○
20	OUT 3 (+)	●
21	OUT 2 RTN (-)	○
22	OUT 2 (+)	●
23	OUT 1 RTN (-)	○
24	OUT 1 RTN (-)	○
25	OUT 1 (+)	●



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**.

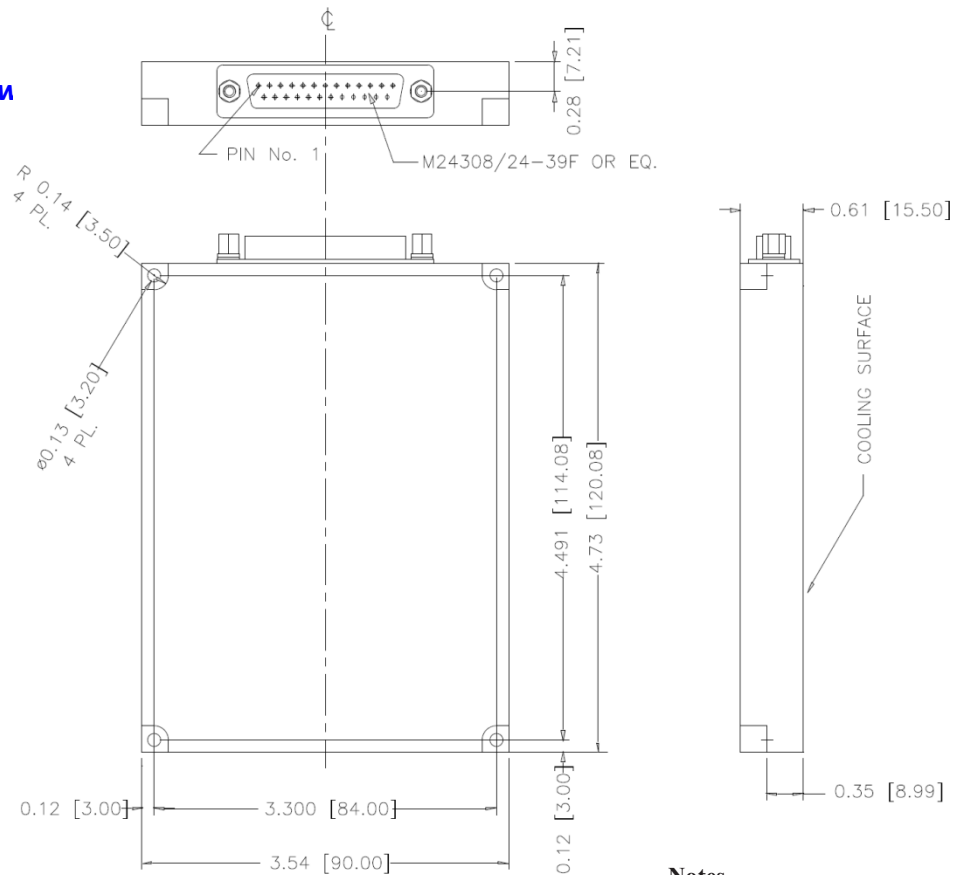
CHASSIS

The **CHASSIS** pin is referenced to the device's chassis, to allow simple connection to system chassis.

* For optimal performance, connect all pins with identical designation together.

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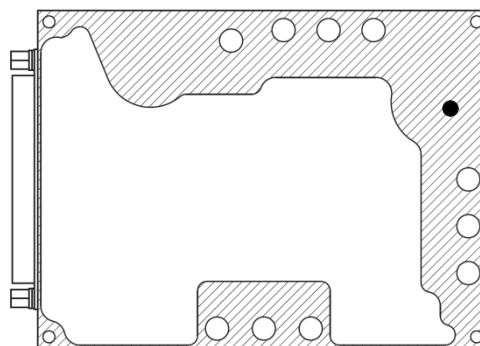
Outline Draw



Notes

1. Dimensions are in inches [mm]
2. Tolerance is:
.XX ± 0.01 in
.XXX ± 0.005 in
3. Weight: 13.4 oz [380 g]

Heat Dissipation Surface



Heat Dissipation Area:
6.12 in²
[3,950 mm²]

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Standard Configurations

Part Number	Input	Output #1		Output #2		Output #3	
	Voltage	Voltage	Current	Voltage	Current	Voltage	Current
M8337100	18 to 48 V _{DC}	5 V _{DC}	10 A	3.3 V _{DC}	6 A	12 V _{DC}	4 A
M8337101	18 to 48 V _{DC}	5 V _{DC}	10 A	3.3 V _{DC}	6 A	28 V _{DC}	1.7 A
M8337102	18 to 48 V _{DC}	5 V _{DC}	6 A	15 V _{DC}	3 A	15 V _{DC}	3 A
M8337103	18 to 48 V _{DC}	5 V _{DC}	6 A	12 V _{DC}	4 A	12 V _{DC}	4 A
M8337104	18 to 48 V _{DC}	15 V _{DC}	3.2 A	15 V _{DC}	3.2 A	5 V _{DC}	1.25 A

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