

M635 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- MINIATURE, HIGH DENSITY
- NINE OUTPUTS
- UP TO 250 W
- DC/DC POWER SUPPLY

M635 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)
- External synchronization capability
- TTL logic enable
- EMI/RFI filters included
- Indefinite short circuit protection with auto-recovery
- 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°C (baseplate) Storage: -55°C to +125°C

RELIABILITY

150,000 hours, calculated per

MIL-STD-217F at +85°C baseplate, ground fixed.

ELECTRICAL SPECIFICATIONS

DC INPUT

DC Input range: 18 to 70 VDC Input transient protection:

All models meet or exceed (no damage)

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

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

Efficiency: up to 75%

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 1% (no load to full load, -55°C to +85°C)

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

Current limiting (Hiccup):

Continuous protection for unlimited time

Over voltage protection:

Passive transorb on outputs.

Over temperature protection:

Shutdown at baseplate temperature of +105°C (±5°C)

Automatic recovery at baseplate temperature lower than +95°C (±5°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

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- EMC compliance achieved when tested with 5 uH 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**.

SELECTION GUIDE

Model	Input	Regulation (Typical)	Ripple (20 MHz BW)
M635-1	18 to 70 VDC	± 1% / ± 2%	50/100 mVp-p
M635-2	18 to 70 VDC	± 1% / ± 2%	50/100 mVp-p
M635-3	18 to 70 VDC	± 1% / ± 2%	50/100 mVp-p

Model	Output #1	Output #2	Output #3	Output #4
M635-1	+5V/5A	+16.5V/1A	+15V/2A	-15V/2A
M635-2	+3.3V/3.7A	+5V/1A	+15V/2A	+12V/1.3A
M635-3	+12V/4.5A	-15V/0.3A	-12V/3.5A	+15V/0.3A

Model	Output #5	Output #6	Output #7	Output #8	Output #9
M635-1	+18V/0.7A	-18V/0.7A	+30V/1A	+45V/0.6A	-45V/0.6A
M635-2	-12V/1.3A	+15V/0.15A	-15V/0.15A	+5V/1A	N.C.
M635-3	+28V/2.8A	-5V/0.3A	N.C.	N.C.	N.C.

Note: other voltages and currents are available, consult factory.

PIN ASSIGNMENT

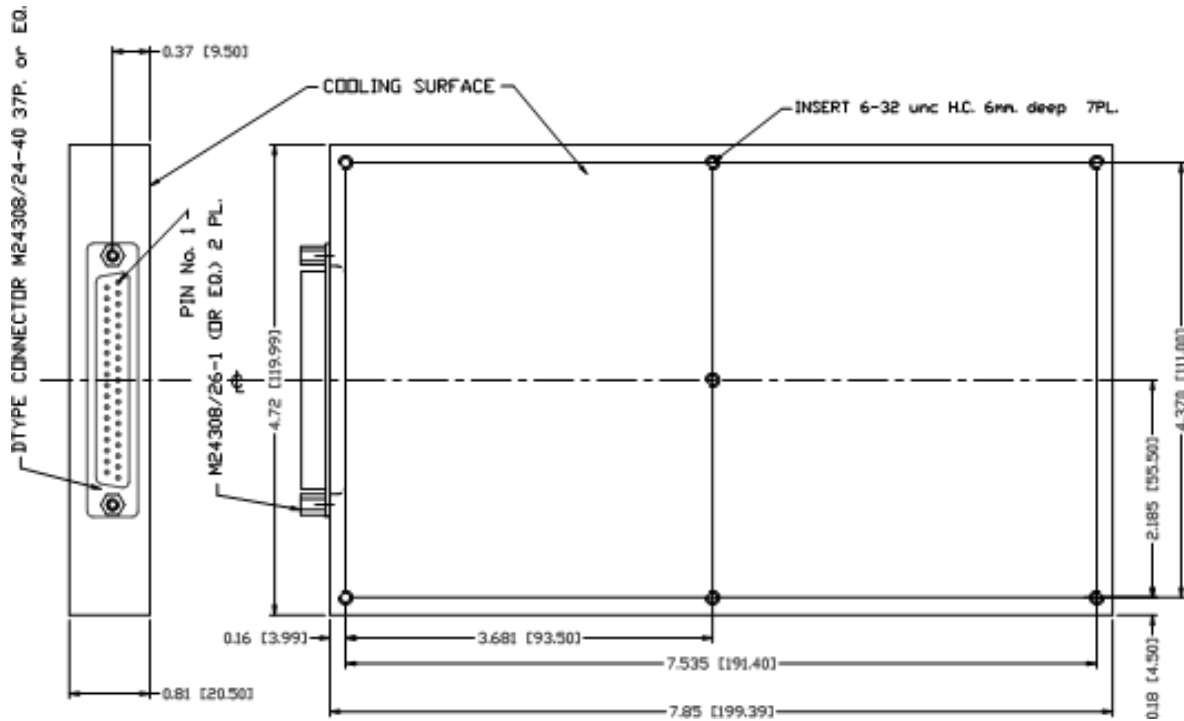
PIN No.	PIN Function
1	- VIN
2	- VIN
3	- VIN
4	+ VIN
5	+ VIN
6	+ VIN
7	- OUT 3
8	+ OUT 3
9	+ OUT 4
10	- OUT 4

PIN No.	PIN Function
11	+ OUT 6
12	- OUT 5
13	- OUT 8
14	+ OUT 8
15	+ OUT 9
16	+ OUT 2
17	- OUT 2
18	- OUT 1
19	+ OUT 1
20	- VIN

PIN No.	PIN Function
21	- VIN
22	- VIN
23	+ VIN
24	+ VIN
25	+ VIN
26	SIGNAL RTN
27	SYN IN
28	INHIBIT
29	- OUT 7
30	- OUT 6

PIN No.	PIN Function
31	+ OUT 5
32	+ OUT 7
33	- OUT 9
34	OUT1 + SENSE
35	OUT1 - SENSE
36	- OUT 1
37	+ OUT 1

OUTLINE DRAWING



Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:
.XX ±0.01 IN
.XXX ±0.008 IN
3. Weight: 28 oz (795 g)

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