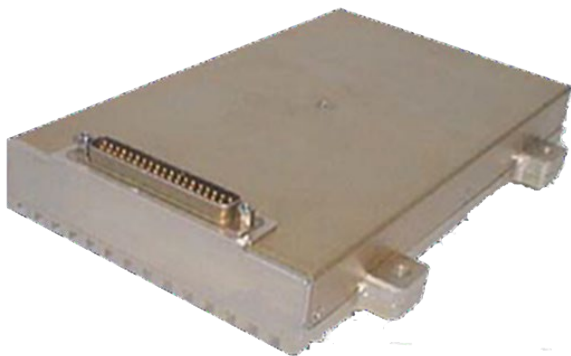


## M641 SERIES

DC/DC POWER SUPPLY



### PRODUCT HIGHLIGHTS

- MINIATURE, HIGH DENSITY
- NINE OUTPUTS
- UP TO 250 W
- 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 -55C to +90°C (baseplate)

Storage -55C 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

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 1% (no load to full load, -55°C to +90°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

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\* 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***.

**SELECTION GUIDE**

Models	Regulation	Ripple (20MHz BW)
All	± 1%	50 mVp-p

Model	Input	Output #1	Output #2	Output #3	Output #4	Output #5	Output #6	Output #7	Output #8	Output #9
M641-1	18 to 70 VDC	+5V/5A	+16.5V/1A	+15V/2A	-15V/2A	+18V/0.7A	-18V/0.7A	+30V/1A	+45V/0.6A	-45V/0.6A

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

**PIN ASSIGNMENT (Upper Panel Connector)**

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

PIN No.	PIN Function
11	+ OUT 4
12	+ OUT 3
13	- OUT 3
14	+ VIN
15	+ VIN
16	+ VIN
17	- VIN
18	- VIN
19	- VIN
20	+ OUT 1

PIN No.	PIN Function	PIN No.	PIN Function
21	- OUT 1	31	- SIGNAL
22	OUT 1 - SENSE	32	+ VIN
23	OUT 1 +SENSE	33	+ VIN
24	- OUT 9	34	+ VIN
25	+ OUT 7	35	- VIN
26	+ OUT 5	36	- VIN
27	- OUT 6	37	- VIN
28	- OUT 7		
29	INHIBIT		
30	SYN INPUT		

