

# M635 SERIES

MINIATURE, HIGH DENSITY,  
NINE OUTPUTS,  
DC/DC CONVERTERS  
(UP TO 250W)



## 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 +90°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%

EMI/RFI:

Meets or exceeds MIL-STD-461D

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 tranzorb 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

## 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

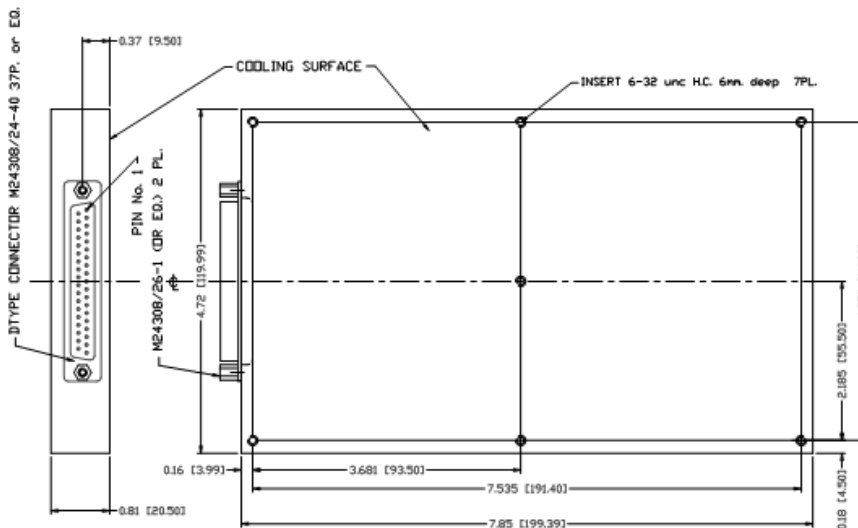
PIN No.	PIN Function
1	- VIN
2	- VIN
3	- VIN
4	+ VIN
5	+ VIN
6	+ VIN
7	- OUT 3
8	+ OUT 3
9	+ OUT 4
10	- OUT 4

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



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

### Notes

- Dimensions are in Inches [mm]
- Tolerance is:  
.XX ±.02 IN  
.XXX ±.01 IN
- Weight: 28 Oz (795 gr)