

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 $+90^{\circ}\text{C}$ (baseplate)

Storage -55°C to $+125^{\circ}\text{C}$

RELIABILITY

150,000 hours, calculated per
MIL-STD-217F at $+85^{\circ}\text{C}$ 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 $+90^{\circ}\text{C}$)

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 $+105^{\circ}\text{C}$ ($\pm 5^{\circ}\text{C}$)

Automatic recovery at baseplate temperature

lower than $+95^{\circ}\text{C}$ ($\pm 5^{\circ}\text{C}$)

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 | $\pm 1\% / \pm 2\%$ | 50/100 mVp-p |
| M635-2 | 18 to 70 VDC | $\pm 1\% / \pm 2\%$ | 50/100 mVp-p |
| M635-3 | 18 to 70 VDC | $\pm 1\% / \pm 2\%$ | 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

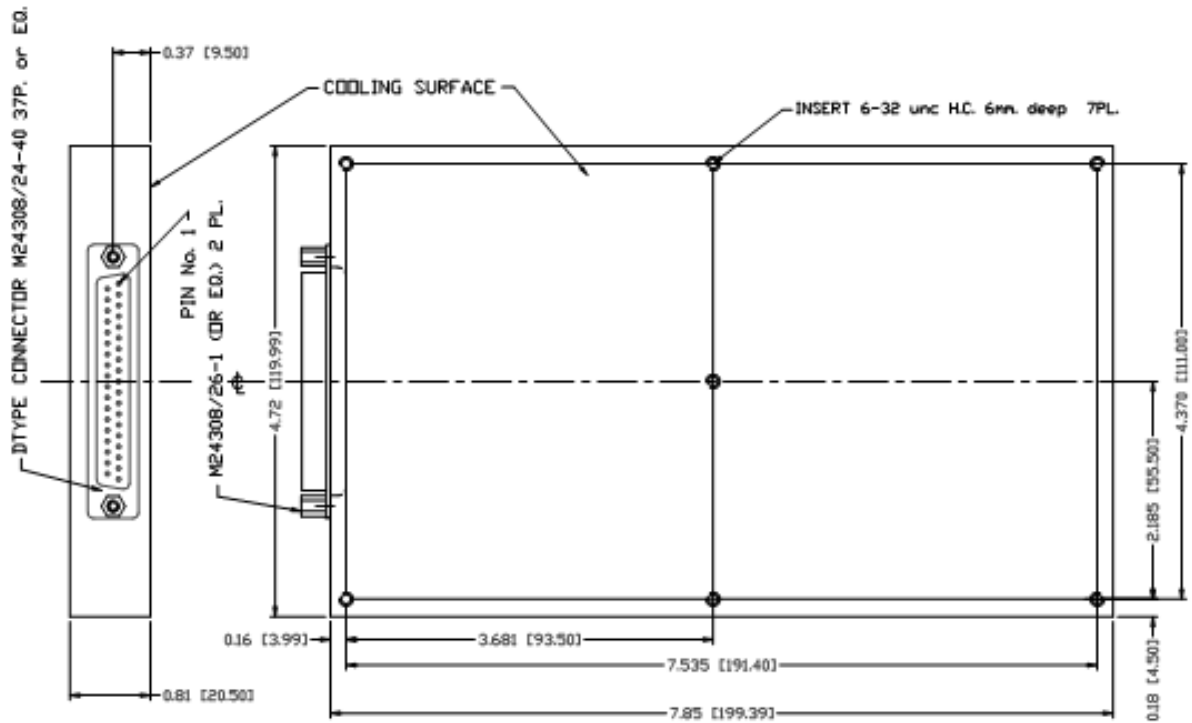
| PIN No. | PIN Function |
|---------|--------------|
| 1 | - VIN |
| 2 | - VIN |
| 3 | - VIN |
| 4 | + VIN |
| 5 | + VIN |
| 6 | + VIN |
| 7 | - OUT 3 |
| 8 | + OUT 3 |
| 9 | + OUT 4 |
| 10 | - OUT 4 |

| 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

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