

# M8647 SERIES

THE MOST COMPLETE,  
MINIATURE, HIGH DENSITY,  
QUAD OUTPUTS  
DC/DC CONVERTERS  
(UP TO 125W)

## 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 50mSec) and

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

Efficiency: up to 80%

EMI/RFI:

Design to meet or exceed MIL-STD-461C

CE03, CE07, CS01, CS02, CS06, RE02, RS02, RS03

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 transzorb 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

## PIN ASSIGNMENT

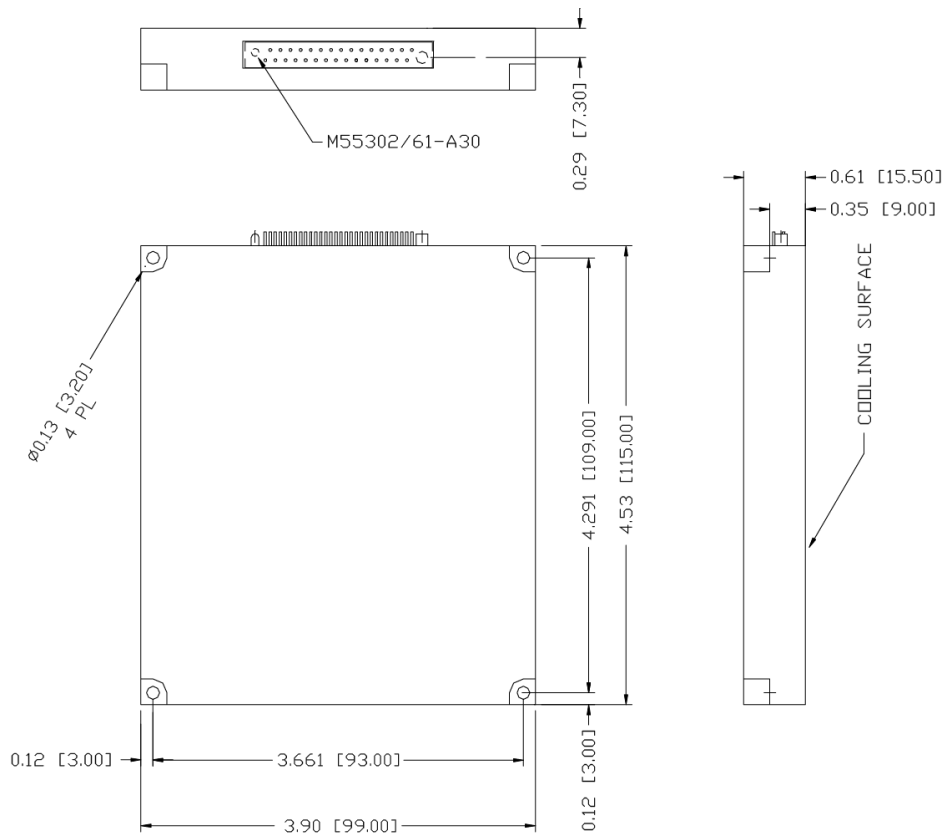
Pin No.	Pin Function
1	+ OUT 1
2	+ OUT 1
3	- OUT 1
4	- OUT 1
5	- OUT 4
6	+ OUT 2
7	- OUT 2
8	+ OUT 3
9	- OUT 3
10	N.C.

Pin No.	Pin Function
11	SIGNAL RTN*
12	- VIN
13	- VIN
14	+VIN
15	+VIN
16	+ OUT 1
17	+ OUT 1
18	- OUT 1
19	- OUT 1
20	+ OUT 4

Pin No.	Pin Function
21	+ OUT 2
22	- OUT 2
23	+ OUT 3
24	- OUT 3
25	INHIBIT
26	- VIN
27	- VIN
28	+VIN
29	+VIN
30	SYN

\* Signal RTN for the INHIBIT and the SYN signals.

## OUTLINE DRAWING



### Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:  
.XX ±.02 IN  
.XXX ±.01 IN
3. Weight: 12.8 Oz (370gr)
4. Add suffix SL to specify connector with guideset per M55302/57-A30X
5. Add suffix OC to specify connector with guideset per M55302/63-C30 (Opposite Connector with different pin out)

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