

M6242 SERIES

DC/DC POWER SUPPLY



PRODUCT HIGHLIGHTS

- **MINIATURE**
- **HIGH DENSITY**
- **400 Hz SINGLE-PHASE OUTPUT**
- **DC/AC INVERTER**
- **UP TO 100 VA**

M6242 SERIES DC/AC INVERTER

Applications

Military (Airborne, mobile, ground-fix, shipboard), Ruggedized, Telecom, Industrial Power Supply

Special Features

- Miniature size
- High efficiency
- Wide input range
- Input / Output isolation
- Output Good (BIT) Signal
- EMI filters included
- Non-latching protections:
 - Overload/Short-Circuit
 - Over-voltage
 - Over temperature

Electrical Specifications

DC Input

Voltage range: 18 to 36 V_{DC}

AC Output

Voltage range: 26 to 115V_{rms}
Current range: 0 to 2.3 A
Power range: 0 to 100 VA

Isolation

Input to Output: 500 V_{DC}
Input to Case: 100 V_{DC}
Output to Case: 500 V_{DC}

Output Voltage Regulation

Better than ±3% (no load to full load, -55 °C to +90 °C, and over input voltage range).

Efficiency

60-75% typical from 40% load

EMC

Designed to meet* MIL-STD-461F
CE102, CS101, CS114, CS115,
CS116, RE102, RS103

Output Waveform

Sinusoidal, with up to 3% THD when driving resistive, capacitive or inductive load

* EMC Compliance achieved with 5µH LISN, shielded harness and static resistive load.

Protections *

Input

- **Over-Voltage Lock-Out**

Output

- **Over-Voltage Protection**
Electronic shutdown with automatic recovery and a passive transorb on output.
- **Current limiting**
Continuous protection for unlimited time with Automatic recovery.

General

- **Over Temperature protection:**
Shutdown in case baseplate temperature rises above $+95\text{ °C} \pm 5\text{ °C}$.
Automatic recovery upon cool-down to below $+90\text{ °C} \pm 5\text{ °C}$.

Environmental Conditions **

Designed to meet MIL-STD-810F

Temperature

Operating: -55 °C to $+85\text{ °C}$
(measured at base plate)
Storage: -55 °C to $+125\text{ °C}$

Altitude

Method 500.4
Procedures I & II
0 to 70 000 ft. AMSL

Salt Fog

Method 509.4

Humidity

Method 507.4
Up to 95%.

Vibration

Method 514.5
Category 24
General minimum integrity exposure
IAW Figure 514.5C-17,
1 hour per axis.

Shock

Method 516.5
Procedure I
Saw-tooth, 20 g peak, 11 ms

Reliability

150 000 hours, calculated per MIL-HDBK-217F Notice 2 at $+85\text{ °C}$ baseplate, Ground fixed.

Environmental Stress Screening (ESS)

Including random vibration and thermal cycles is also available. **Please consult factory for details.**

* Thresholds and protections can be modified / removed – please consult factory.

** All environmental requirements can be tailored per customer needs – please consult factory.

Pin Assignment

Connector type: MS3102E14S-6P-626-9 or eq.

Mates with: MS3106T-14S-6S-626-9 or eq.

Pin #	Function	P
A	VIN	+
B	VIN RTN	-
C	OUT (PHASE)	~
D	OUT RTN (NEUTRAL)	0
E	BIT	+
F	INHIBIT	+

Functions and Signals

INHIBIT

The **INHIBIT** signal is used to turn the power supply ON and OFF.

- Leaving it open will turn the power supply ON.
- Shorting it to **IN RTN** will turn the power supply OFF.

This signal is referenced to **VIN RTN**.

BIT

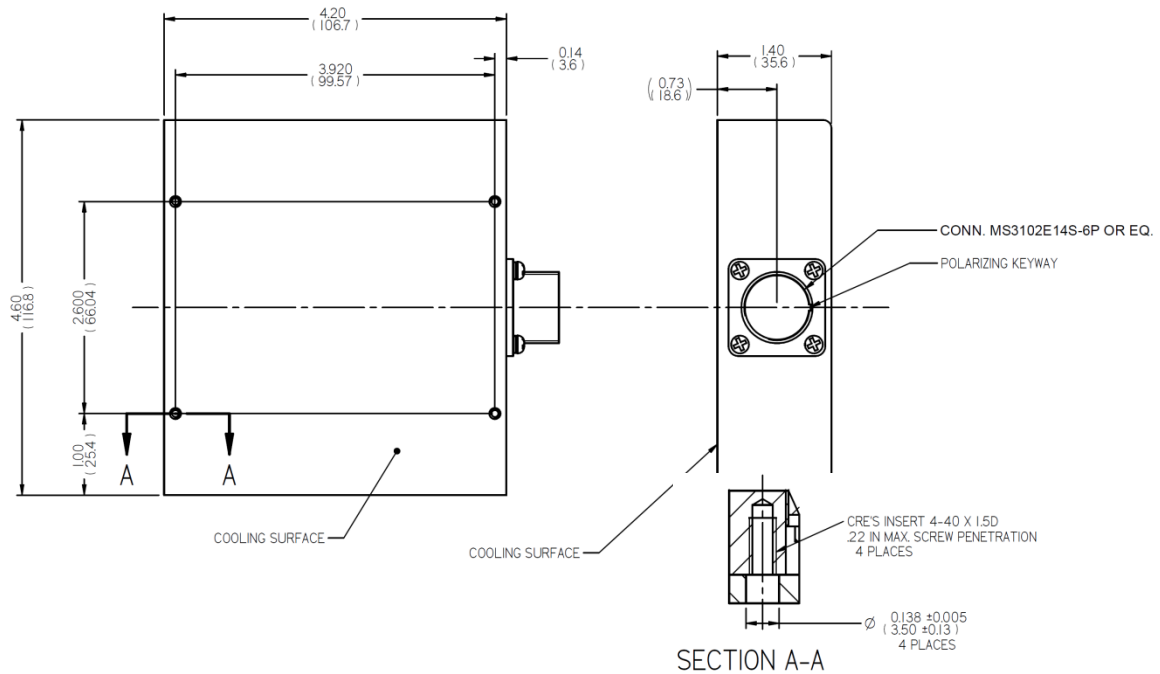
The **BIT** signal is used to indicate if the output voltage is within range.

TTL "1" means the output is within the required tolerances.

TTL "0" means the output is not within the required tolerances.

This signal is referenced to **BIT RTN**.

Outline Drawing



Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:
.XX ± 0.02 IN
.XXX ± 0.01 IN
3. Weight: TBD

Standard Configurations

Part number	Input	Output		
	Voltage Input range	Voltage	Frequency	Current
M6242-100	18 to 36 V _{DC}	115 V _{AC}	400Hz	1 A
M4252-800	18 to 36 V _{DC}	115 V _{AC}	400Hz	1 A

Special Features

- **M6242-800:** this variant is REACH Compliant
- **M6242-800:** The aluminum parts comprising this variant are chromate conversion coated per MIL-DTL-5541F, Type II CLASS 1A or eq.

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