

## Aegis Power Solution

# VME450A-01

## VME Power Converter

(Rev A02, 06/08/10)



### 28Vdc Input, 4 Output, 550W Max VME Card

## Features

- 28VDC per MIL-STD-704F
- 4 Output Voltages, 550W
- MIL-STD-810F Environment
- MIL-STD-461D/E/F EMI
- Dual Slot VME Power Card

## Product Highlights

This dual slot filtered 28VDC VME450A power card has four outputs (3.3, 5,  $\pm 12$ V) at 550W, is a military COTS solution compliant to MIL-STD-810F vibration requirements and EMI requirements to MIL-STD-461D/E/F.

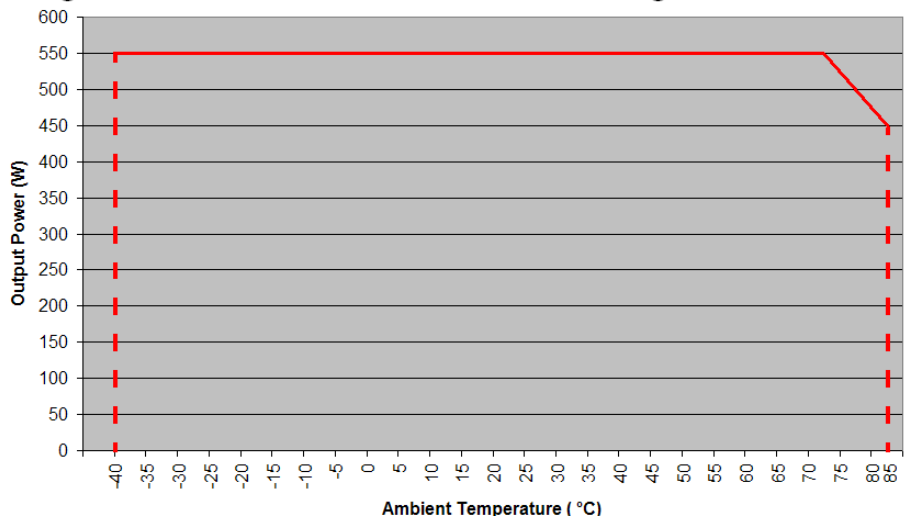
When compared to VME power supplies using conventional technology, the dual-slot VME450A provides users with higher efficiency (85%), lower weight (4.4 pounds), and higher power (up to 550W).

**AEGIS Power Systems, Inc.** specializes in the front end design, development, and manufacture of Rapid Response Custom switching power supplies for the defense, industrial, telecommunications industries and suppliers of Electric Vehicle Power Convertors.

**Table 1 Maximum Ratings**

Parameter	Rating	Unit	Notes
Vin max range	18 to 36	Vdc	
Temperature	-40 to +85	°C	Use output derating Fig. 1
Combined output power	550	W	
Input power	650	W	@ 550W out
Max +5 V power	224	W	
Max +3.3 V power	224	W	
Max +12 V power	100	W	
Max -12 V power	100	W	

**Figure 1. VME 450A Power Derating**



Operation from 0°C to 75°C - minimum 600LFM airflow required (800LFM recommended)  
 Operation from 75°C to 85°C - minimum 1200 LFM airflow required

## SPECIFICATIONS

**(Typical at 25°C, nominal line and 100 % load, unless otherwise specified.)**

<b>DC input voltage:</b>	Meets MIL-STD-704F normal range. 22 Vdc to 29 Vdc, 28 Vdc nominal. 50 Vdc 12.5 msec transient, shut down for longer automatic restart. Shuts down for abnormal range automatic restart.
<b>DC input line current:</b>	24.1 A max @ 22 Vdc; 18.5 A typical @ 28 Vdc input (450 Wout). 29.4 A max @ 22 Vdc; 22.6 A typical @ 28 Vdc input (550 Wout).
<b>Input power:</b>	529 W max @ 450 Wout, 650 W max @ 550 Wout.
<b>Output power:</b>	450 to 550 W max. all outputs combined (see Fig. 1).
<b>Output voltages:</b>	See table 2.
<b>Efficiency:</b>	85% minimum, 87% typical.
<b>Start up time:</b>	500 millisecond maximum.
<b>Voltage set point/ Line/Load regulation:</b>	+/- 2% Vout nominal (for any combination).
<b>Temperature regulation:</b>	+/- 0.01% / °C.
<b>Output ripple:</b>	50 mV pk-pk Max. (20 MHz BW) all except; +/-12 Vdc 100 mV pk-pk Max.
<b>Current Limit:</b>	Short circuit protected with automatic recovery.
<b>Temperature:</b>	-40°C to +75°C Operating ambient 550 W (See Figure 1). -40°C to +85°C Operating ambient 450 W (See Figure 1). -55°C to +100°C Non-operating.
<b>Size:</b>	6U x 8hp x 160 mm (see mechanical drawing).
<b>Weight:</b>	4.4 lb. Typical.
<b>Connector:</b>	1ea Positronics PCIH47M400A1 or equivalent (see page 3 for pin assignments).
<b>Vibration:</b>	MIL-STD-810F, Method 514.5, Procedure I.
<b>Shock:</b>	MIL-STD-810F, Method 516.5, Procedure I.
<b>Humidity:</b>	0 – 95% non-condensing.
<b>EMI:</b>	MIL-STD-461E, CE102, CS101.

**Table 2 Voltage Outputs**

VME450GA-XX	V1	V2	V3	V4
01	+5Vdc	+3.3Vdc	+12Vdc	-12Vdc
	40A	55A	7.1A	7.1A
	200W	182W	85W	85W
Output voltage variants possible. Contact AEGIS sales for details.				

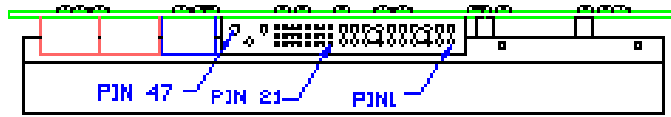
## VME450A-01 Pin Out Assignment

Connector Positronic P/N PCIH47M400A1 or Equivalent

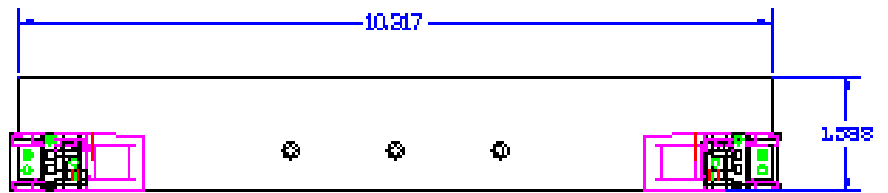
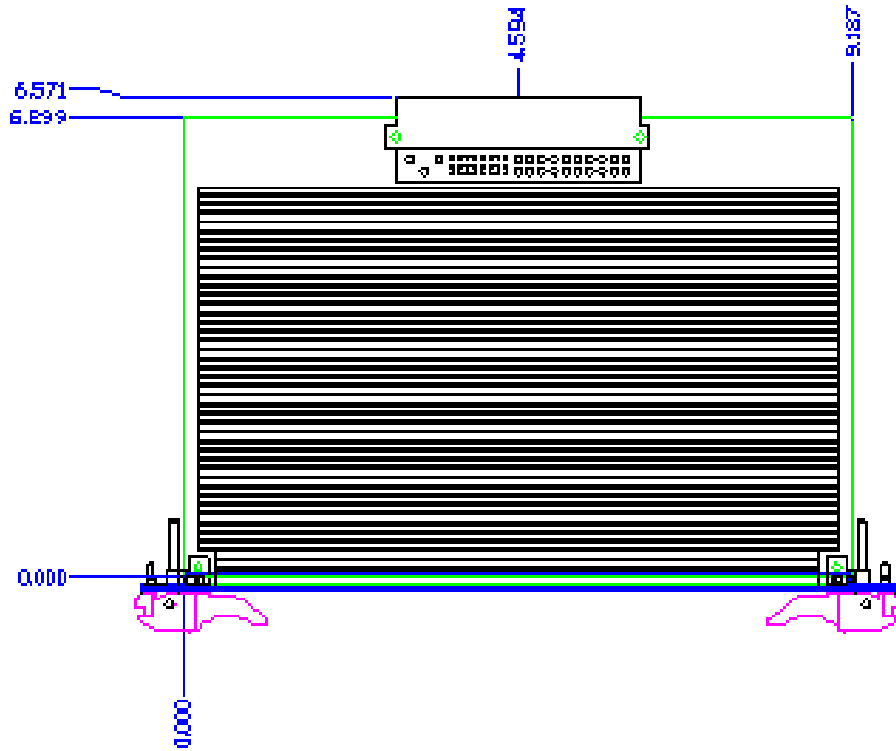
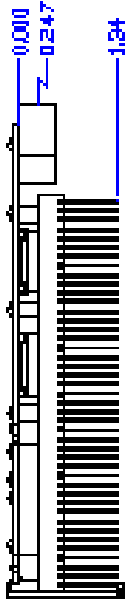
<b>Pins 1, 2, 3, 4</b>	<b>+5 Vdc</b>
Pins 5, 6, 7, 8	+5 V RTN (Common)
Pins 9, 10, 11, 12	+3.3 V RTN (Common)
<b>Pins 13, 14, 15, 16</b>	<b>+3.3 Vdc</b>
<b>Pin 17</b>	<b>+12 Vdc</b>
<b>Pin 18</b>	<b>+12 V RTN (Common)</b>
Pin 19	-12 Vdc
Pin 20	-12 V RTN (Common)
Pin 21	NC
Pin 22	Signal RTN (Common)
Pins 23, 24, 25, 26	NC
Pins 27, 28, 29	NC
Pin 30	NC
Pin 31	NC
Pin 32	NC
Pins 33, 34, 35, 36	NC
Pins 37, 38	NC
<b>Pin 39</b>	<b>Inhibit (Connect pin to negative input to disable)</b>
Pins 40, 41	NC
<b>Pin 42</b>	<b>Power OK, (Open collector = Fail)</b>
Pins 43, 44	NC
<b>Pin 45</b>	<b>Chassis Ground</b>
<b>Pin 46</b>	<b>Positive</b>
<b>Pin 47</b>	<b>Negative Input</b>

# VME450A DRAWING

REAR VIEW



TOP OF PWB TO  
CL. OF CONN.  
PWB THICKNESS=.072"



FRONT VIEW