

Aegis Power Solution

VME450G-01

VME Power Converter

(Rev A02, 06/08/10)



28Vinput, 4 Output, 550W Max VME Card

Features

- 28VDC per MIL-STD-704A/F and MIL-STD-1275D
- 4 Output Voltages, 550W
- MIL-STD-810F Environmental
- MIL-STD-461E EMI
- Single Slot VME Power Card

Product Highlights

This single slot filtered 28VDC VME450G power card with four outputs (3.3, 5, ± 12 V) at 550W, is a military COTS solution compliant to MIL-STD-810F vibration requirements and MIL-STD-461D/E/F EMI requirements.

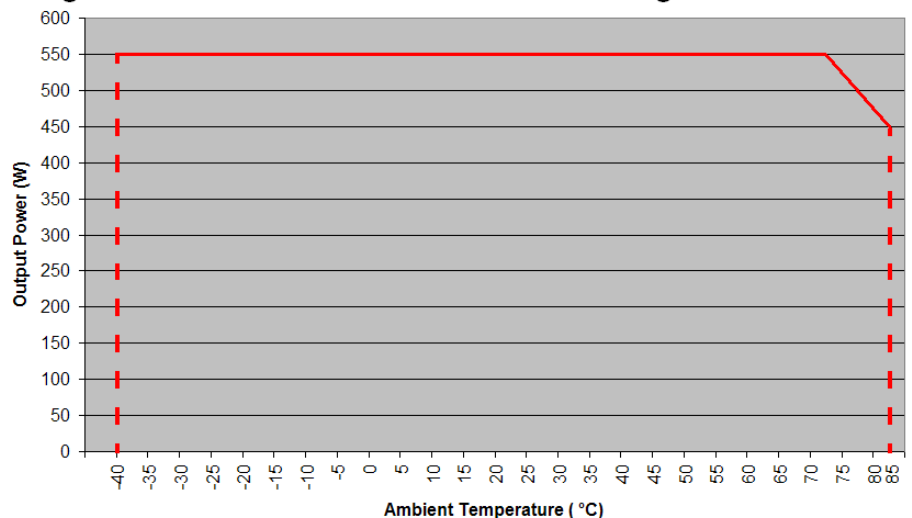
When compared to VME power supplies using conventional technology, the one-slot VME450G1 provides users with higher efficiency (85%), lower weight (2.4 pounds), and higher power (up to 550W).

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 450G Power Derating



Baseplate Temperature (C) at Wedgelocks.

SPECIFICATIONS

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

DC input voltage:	Meets MIL-STD-704A/F and MIL-STD-1275D, continuous operation. 22 Vdc to 33 Vdc, 28 Vdc nominal. 100 Vdc 50 msec transient.
DC input line current:	24.1 A max @ 22 Vdc; 18.7 A typical @ 28 Vdc input (450 Wout). 29.4 A max @ 22 Vdc; 22.9 A typical @ 28 Vdc input (550 Wout).
Input power:	529 W max @ 450 Wout, 650 W max @ 550 Wout.
Output power:	450 to 550 W max. all outputs combined (see Fig. 1).
Output voltages:	See table 2.
Efficiency:	85% minimum, 86% typical.
Start up time:	500 millisecond maximum.
Voltage set point/ Line/Load regulation:	+/- 2% Vout nominal (for any combination).
Temperature regulation:	+/- 0.01% / °C.
Output ripple:	50 mV pk-pk Max. (20 MHz BW) all except; +/-12 Vdc 100 mV pk-pk Max.
Current Limit:	Short circuit protected with automatic recovery.
Temperature:	-40°C to +75°C Operating baseplate wedgelocks 550 W. -40°C to +85°C Operating baseplate wedgelocks 450 W. -55°C to +100°C Non-operating.
Size:	6U x 4hp x 160 mm (see mechanical drawing).
Weight:	2.4 lb. Typical.
Connector:	1ea Positronics PCIH47M400A1 or equivalent (see page 3 for pin assignments).
Vibration:	MIL-STD-810F, Method 514.5, Procedure I.
Shock:	MIL-STD-810F, Method 516.5, Procedure I.
Humidity:	0 – 95% non-condensing.
EMI:	MIL-STD-461E, CE102, CS101.

Table 2 Voltage Outputs

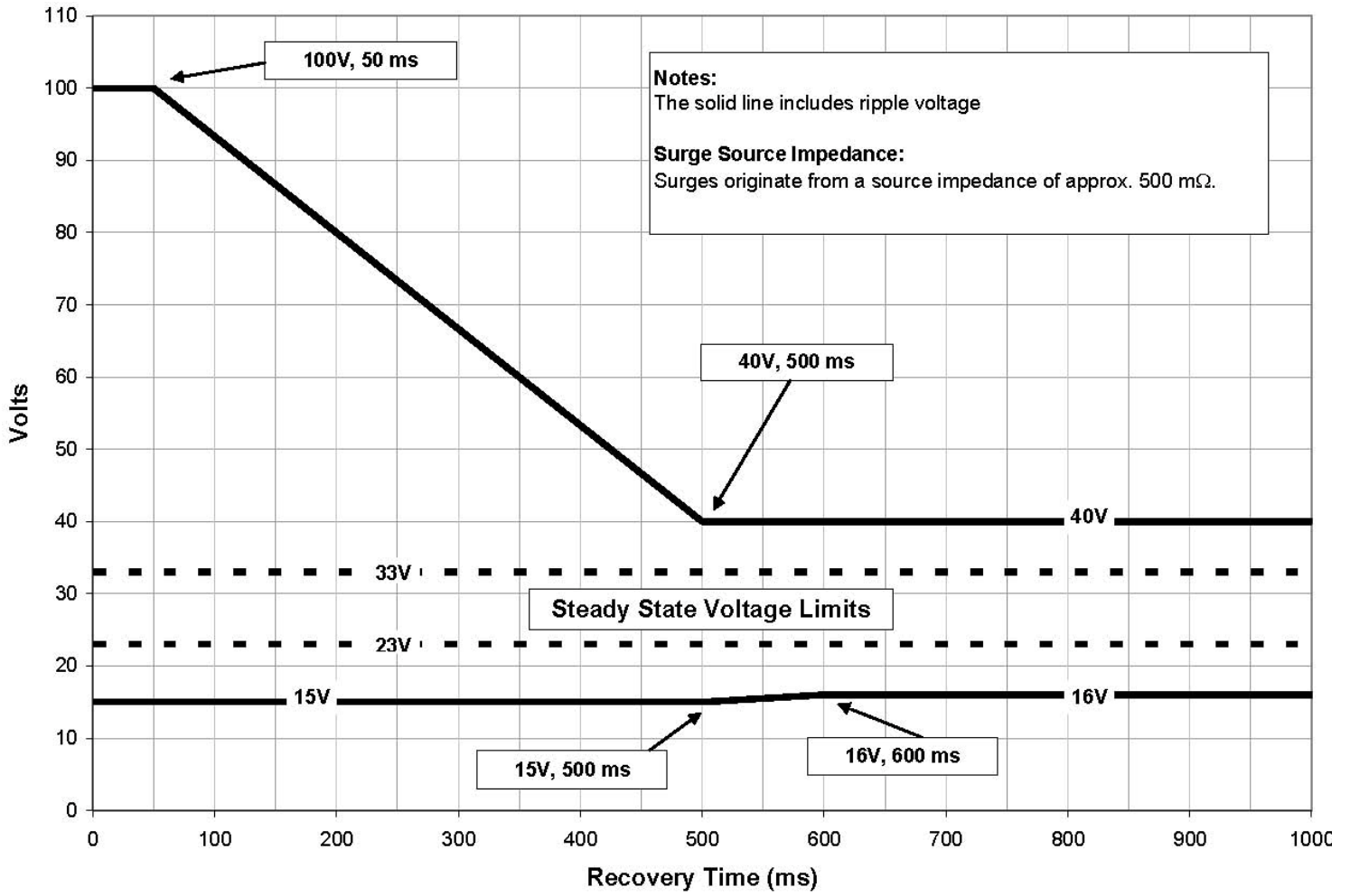
VME450GA-XX	V1	V2	V3	V4
01	+5Vdc	+3.3Vdc	+12Vdc	-12Vdc
	40A	55A	7.1A	7.1A
	200W	182W	85W	85W
Output voltage variants possible. Contact AEGIS sales for details.				

VME450G-01 Pin Out Assignment

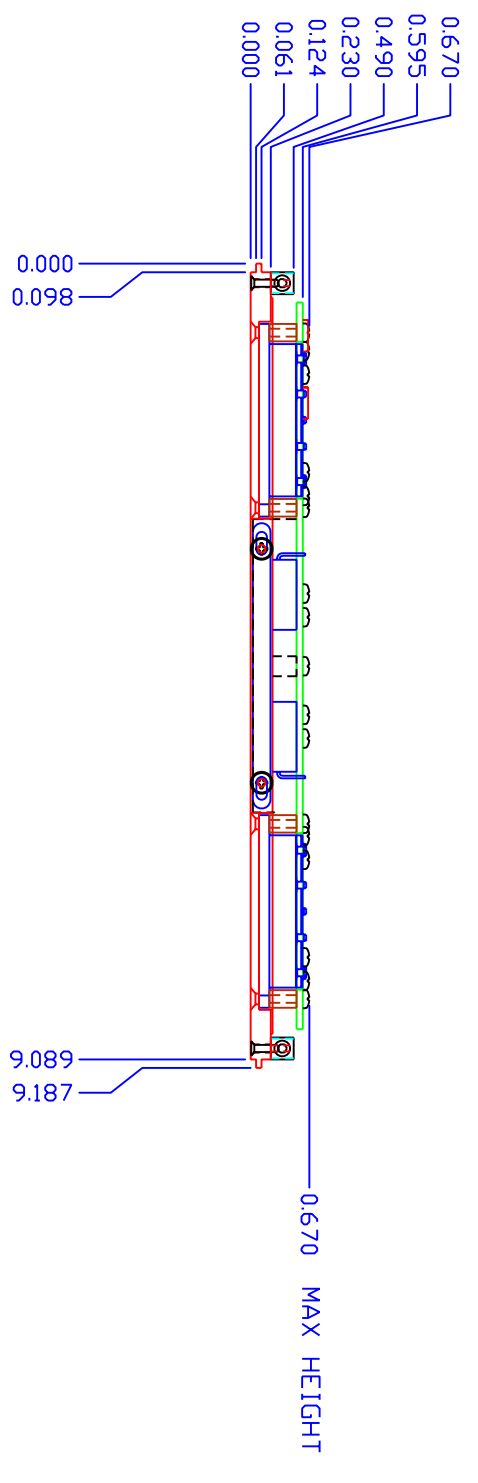
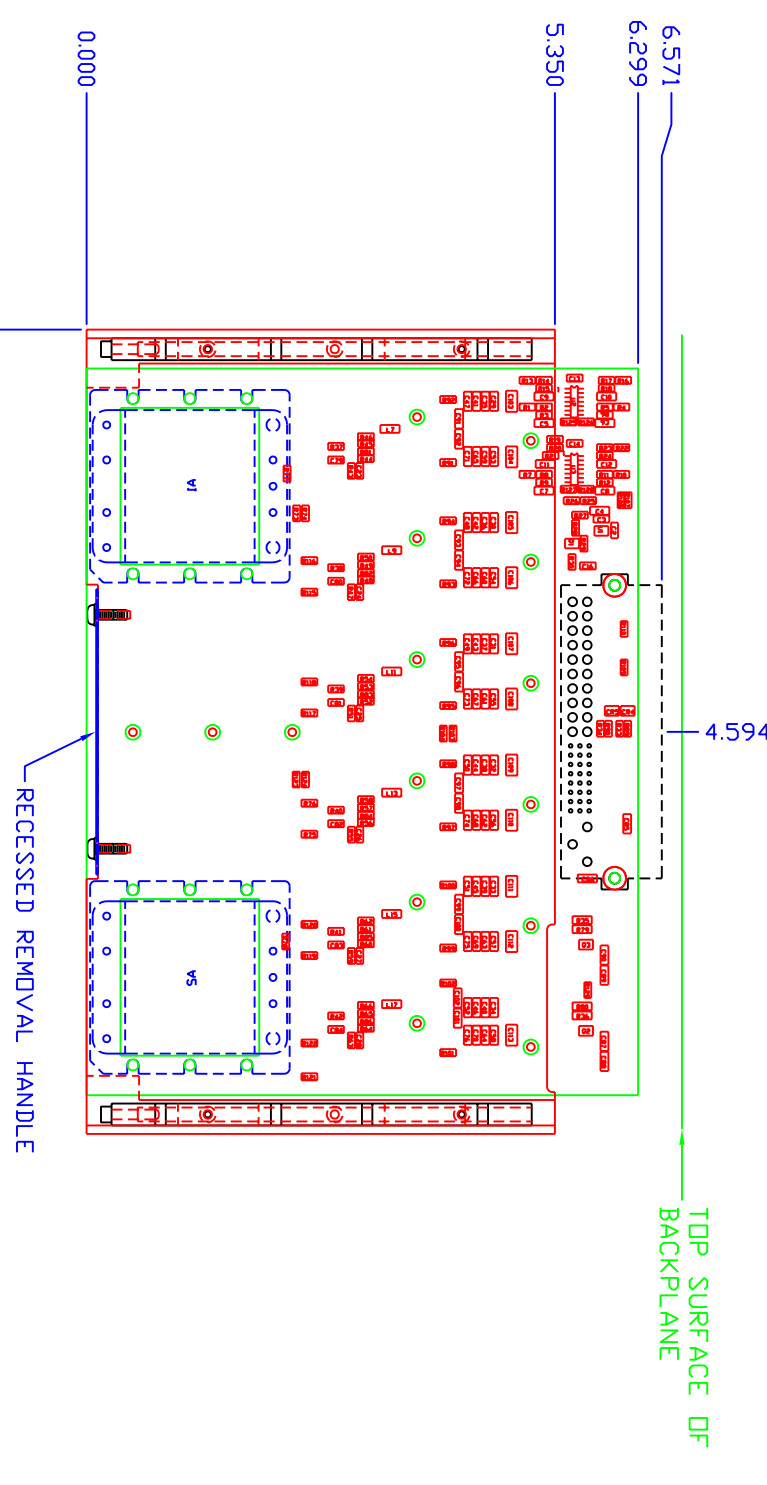
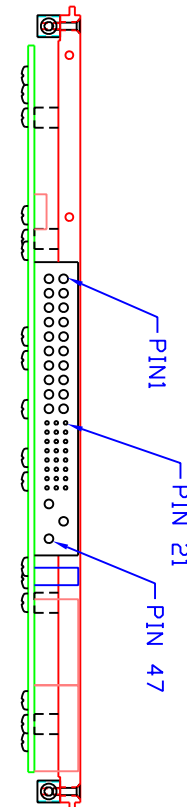
Connector Positronic P/N PCIH47M400A1 or Equivalent

Pins 1, 2, 3, 4	+5 Vdc
Pins 5, 6, 7, 8	+5 V RTN (Common)
Pins 9, 10, 11, 12	+3.3 V RTN (Common)
Pins 13, 14, 15, 16	+3.3 Vdc
Pin 17	+12 Vdc
Pin 18	+12 V RTN (Common)
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
Pin 39	Inhibit (Connect pin to negative input to disable)
Pins 40, 41	NC
Pin 42	Power OK, (Open collector = Fail)
Pins 43, 44	NC
Pin 45	Chassis Ground
Pin 46	Positive
Pin 47	Negative Input

Transient Immunity



NOTES: UNLESS OTHERWISE SPECIFIED
 1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
 2. MATERIAL:
 3. FINISH:



0.670 MAX HEIGHT
 0.595
 0.276
 0.000

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

ZONE	REV	DESCRIPTION	DATE	APPROVED
A01		INITIAL RELEASE		JFS
A02		RECESSED HANDLE, P/N NAME CHG	03/05/07	JFS
A03		UPDATED TO SHOW INPUT INDUCTORS	07/03/07	JFS
A04		MOVED ONE KEYING HOLE LOCATION	07/25/07	JFS
A05		ADDED KEYING BLOCK	11/18/08	MVS
C01		UPDATED FOR REV C01 PWB	01/14/09	MVS

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. FRACTIONS ARE DECIMALS. TOLERANCES ARE: DECIMALS: .5
 * N/A * .02 * .5
 * .005 * .005 * .005

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CONTRACT NO.		TITLE	
APPROVALS		AEGIS POWER SYSTEMS	
DATE		MURPHY, NORTH CAROLINA	
DRAWN		VME450 MECH LAYOUT	
JFS 07/03/07		AEGIS P/N: VME450	
MATERIAL		SIZE / PROJ. NO.	
SEE NOTE 2		D / 06ES8	
FINISH		DWG. NO.	
SEE NOTE 3		VME450-M00	
NEXT ASSY		REV.	
USED ON		C01	
APPLICATION		SCALE 1/1	
DO NOT SCALE DRAWING		SHEET 1 OF 1	

