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Find the *Aegis Power Systems VME450A-03-103* at our website: *Click HERE*

P.O. Box 429, 805 Greenlawn Road, Murphy, NC 28906 Tel: (828) 837-4029 www.aegispower.com

Standard Product

VME450A-01

VME
Power Converter

(Rev A03, 06/25/13)





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

*Designed to meet this particular spec.

Product Highlights

This dual slot filtered 28Vdc VME450A power card has four outputs (3.3, 5, and ±12Vdc) at 550W. This military COTS solution is designed to meet MIL-STD-810F vibration requirements and MIL-STD-461D/E/F EMI requirements.

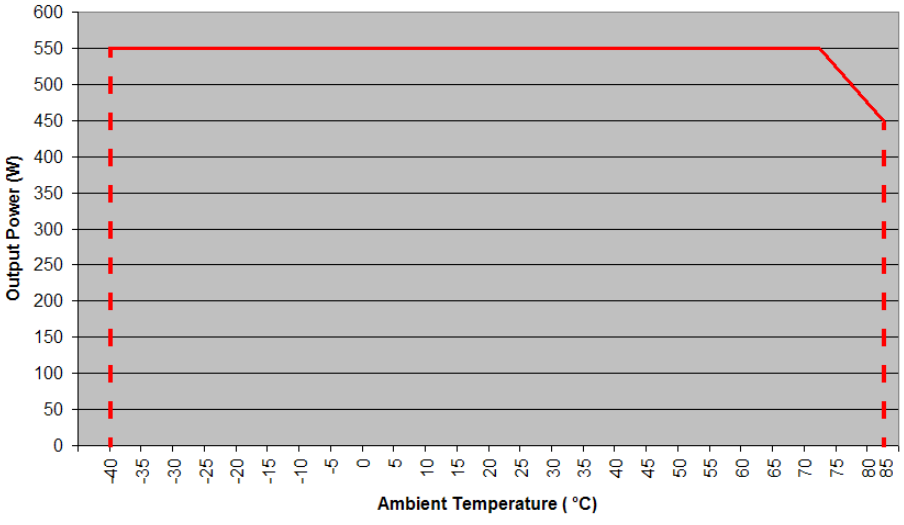
When compared to VME power supplies using conventional technology, the dual-slot VME450A provides users with higher efficiency (85%), lower weight (4.4 pounds), and higher power (up to 550W).

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.)

DC input voltage: Designed to meet 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.

DC input line current: 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).

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, 87% 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 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.

Size: 6U x 8hp x 160 mm (see mechanical drawing).

Weight: 4.4 lb. Typical.

Connector: 1ea Positronics PCIH47M400A1 or equivalent (see page 3 for pin assignments).

Vibration: Designed to meet MIL-STD-810F, Method 514.5, Procedure I.

Shock: Designed to meet MIL-STD-810F, Method 516.5, Procedure I.

Humidity: 0 – 95% non-condensing.

EMI: Designed to meet MIL-STD-461E (CE102 and CS101).

Table 2: Voltage Outputs

VME450A-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.				

Table 3: VME450A-01 Pin Out Assignment

Connector Positronic P/N PCIH47M400A1 or Equivalent

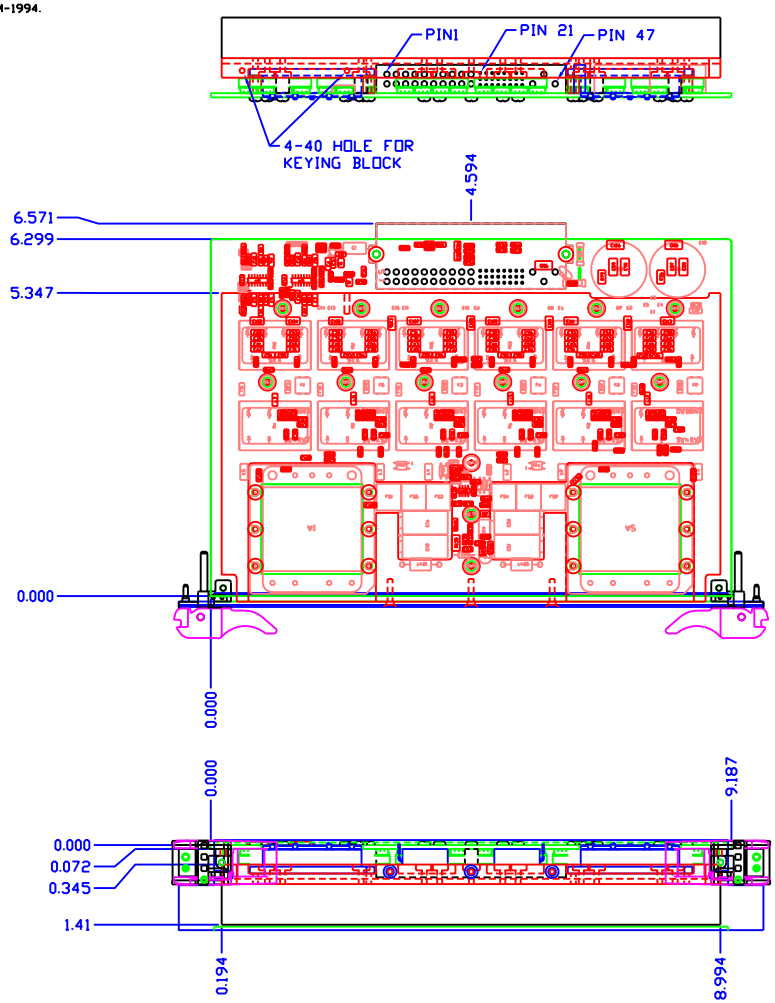
Pins 1, 2, 3, 4	**+5 Vdc**
Pins 5, 6, 7, 8	+5 V RTN (Common)
Pins 9, 10, 11, 12	+3.3 V RTN (Common)
Pins 13, 14, 15, 16	**+3.3 Vdc**
Pin 17	**+12 Vdc**
Pin 18	**+12 V RTN (Common)**
Pin 19	-12 Vdc
Pin 20	-12 V RTN (Common)
Pin 21	NC
Pin 22	Signal RTN (Common)
Pins 23, 24, 25, 26	NC
Pins 27, 28, 29	NC
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**

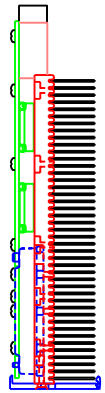
NOTES: UNLESS OTHERWISE SPECIFIED

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	C01	INITIAL RELEASE	01/14/09	MVS
	D02	UPDATED HEATSINK AND PWB	11/09/09	MVS
	D03	UPDATED TO REV D03 PWB	02/10/10	MVS

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





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UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS ± N/A, DECIMALS .XX ± .02, .XXX ± .005, DEGREES ± .5

MATERIAL: SEE NOTE 2

FINISH: SEE NOTE 3

DO NOT SCALE DRAWING

NEXT ASSY	USED ON
APPLICATION	

CONTRACT NO.

APPROVALS	DATE
DRAWN JFS	08/20/07
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: VME450A/VME550A MECH LAYOUT

AEGIS P/N: VME450A/VME550A-XXX

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	VME450A-VME550A-M00	E03

SCALE 1/1 SHEET 1 OF 1

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