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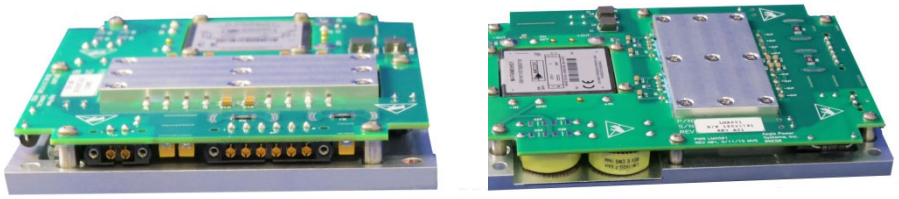
(Document Rev A03, 4/20/20)

LMA501

Overview

DC-DC Power Converter Card
270Vdc Input, 28Vdc Output
750W Max Output



Market(s)

Typical Application(s)

Product Highlights

This compact, low-profile LMA501 power card with 28Vdc output at 750W, is a COTS military power supply solution designed to meet portions of MIL-STD-810F vibration and shock requirements and designed to meet portions of the MIL-STD-461E EMI requirements. This rugged, easy to mount supply provides 750W of power with 93% typical efficiency. The LMA501 is designed as a complement to the VME550 series of rack-mounted 28Vdc power cards. Additionally, the LMA501 can also be configured with other output voltages (12Vdc, 24Vdc and 48Vdc) and it is designed to be paralleled for higher power capabilities. Contact Aegis Power Systems for custom configurations.

Features

- 270Vdc per MIL-STD-704E/F*
- 28Vdc Output, 750W max
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *

* Designed to meet applicable portions of this standard. Contact Aegis Power Systems, Inc. for specific details.

Table 1: Maximum Continuous Operating Ratings

Parameter	Rating	Unit	Notes
Vin max range	250 to 375	Vdc	
Temperature	–40 to +85	°C	Baseplate temperature
Input power	805	W	@750W out (270VDC input)
Output power	750	W	@28Vdc output

About Us

Aegis Power Systems, Inc. specializes in the design, development, and manufacture of AC-DC and DC-DC power supplies for high-performance, rugged, critical, and specialty applications. Markets served include defense, industrial, communications, aircraft, shipboard, rack mount, embedded computing, and electric vehicle applications.

Contact us to find out if this item can be configured or redesigned to meet your specific technology need.

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

Parameter	Notes
Input Voltage	Designed to meet MIL-STD-704E/F, continuous operation 250Vdc to 375Vdc, 270 Vdc nominal.
Input Current	2.98A typical @ 270Vdc input (750W out).
Input Power	805W max @ 750W out, 550W max @ 500W out.
Output power	750W max (see Figure 1)
Output Voltages	28 Vdc
Efficiency	90% minimum, 93% typical.
Start-Up Time	500 milliseconds maximum.
Voltage Set Point	+/-0.5%
Line/ Load regulation	-6%
Output Voltage Temperature Coefficient	–5mv / °C
Output Ripple	800mV pk-pk Max. (20 MHz BW)
Current Limit	Short circuit protected with automatic recovery.
Temperature	–40°C to +85°C Operating baseplate temperature –55°C to +100°C Non-operating (see Figure 1).
Cooling	Conduction cooling through baseplate
Dimensions	4.5" x 6" x 0.75"
Weight	1.36 lb. Typical.
Connector	(see Table 2).
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 (CE101, CE102, and CS101).

Specifications subject to change without notice.

Figure 1:

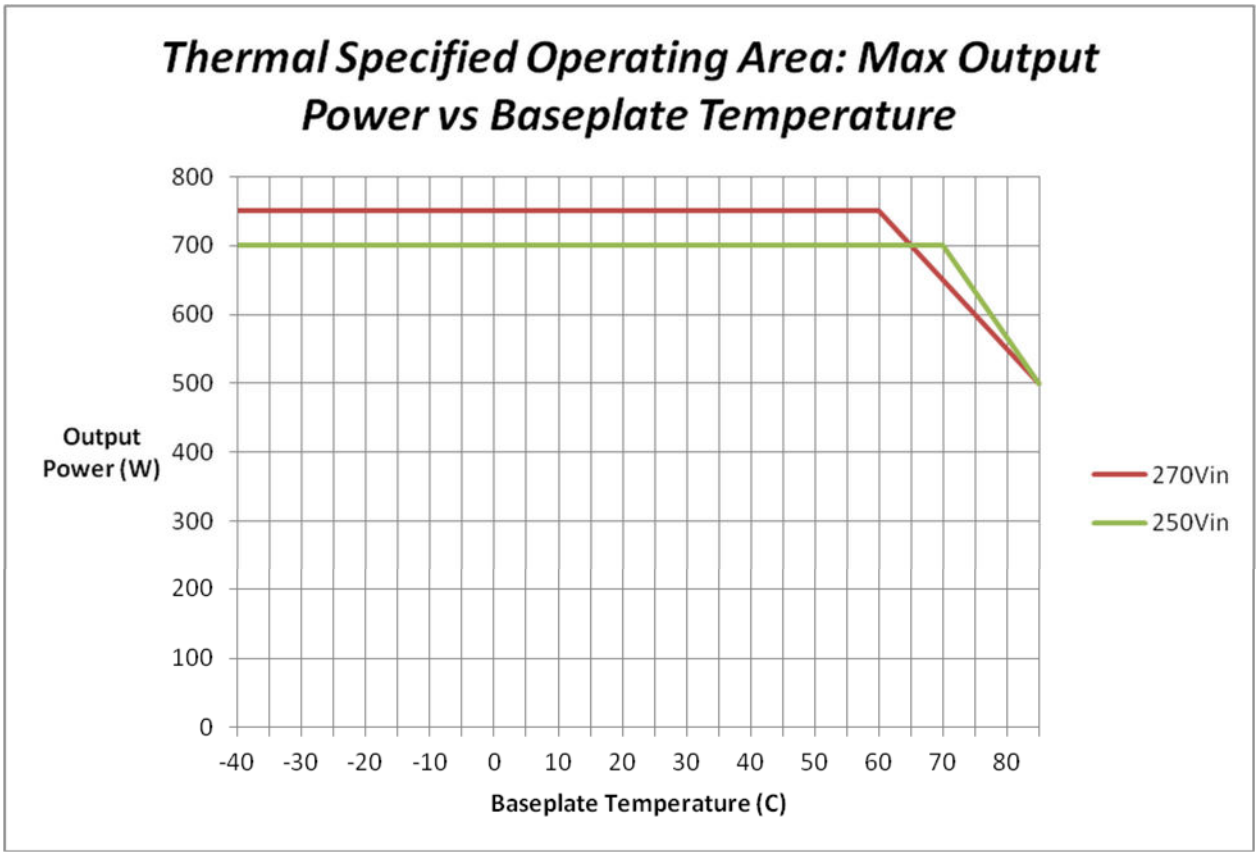

Thermal Specified Operating Area: Max Output Power vs Baseplate Temperature
Output Power (W)
800
700
600
500
400
300
200
100
0
-40
-30
-20
-10
0
10
20
30
40
50
60
70
80
Baseplate Temperature (C)
270Vin
250Vin

Table 2: Connector Specifications

J1 Input Connector Harwin P/N M80-5000000M5-02-332-000-000

Contact Designation	Conductor Circuit
1	Input RTN
2	+270V Input

J2 Output Connector Harwin P/N M80-5000000M5-06-332-000-000

Contact Designation	Conductor Circuit
1, 2, 3	+28 Vdc
4, 5, 6	+28 V RTN

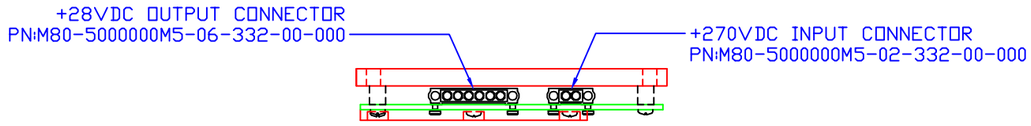
DWG NO.	SH	REV

REVISIONS

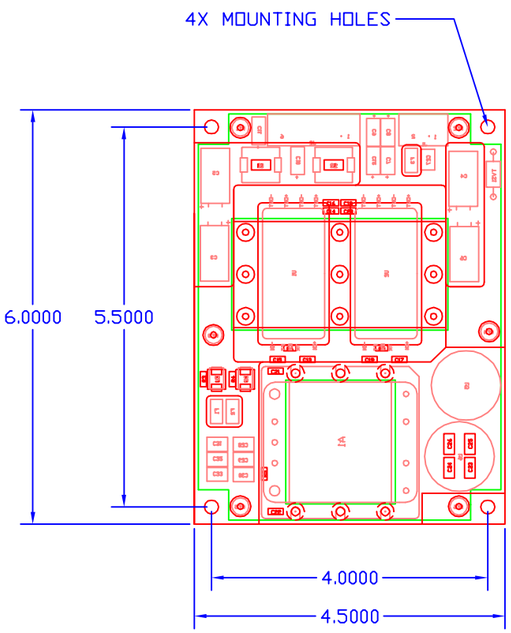
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	07/08/15	MVS

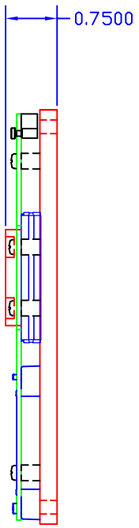
NOTES: UNLESS OTHERWISE SPECIFIED

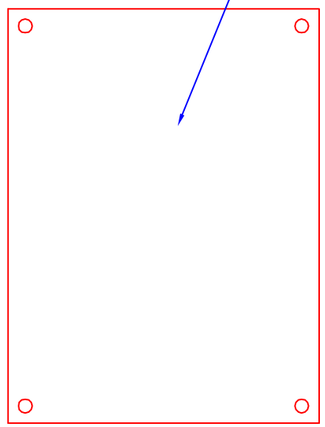
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.



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







NEXT ASSY	USED ON
APPLICATION	

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

CONTRACT NO.

APPROVALS	DATE
DRAWN MVS	07/08/15
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: LMA501 MECH LAYOUT

AEGIS P/N: LMA501

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	LMA501-M00	A01

SCALE 1/1 SHEET 1 OF 1