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VME275L

AC-DC VME Power Supply Card

(Document Rev A08 11/03/2015)

28Vdc Input
3 Output, 275W Max Output
50ms Holdup Time Minimum

Features

- 28Vdc per MIL-STD-704A/E/F * and MIL-STD-1275D * continuous operation.
- 3 Output Voltages, 275W max.
- MIL-STD-810F Environmental *****
- MIL-STD-461E/F EMI *****
- Single Slot VME Power Card

***** Designed to meet portions of the standard. Contact Aegis Power for details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Vin max range	18 to 36	Vdc	
Temperature	–40 to +75	°C	275W @ Wedgelocks
Temperature	–40 to +85	°C	225W @ Wedgelocks
Combined Output Power	275	W	Total all outputs combined
Input power	372	W	
Max +5Vdc power	112	W	22.4A
Max +3.3Vdc power	112	W	33.9A
Max +12Vdc power	51	W	4.25A

Product Highlights

This single slot 4HP wide 6U high filtered dc-dc power supply converter card is configured for three outputs (+5Vdc, +3.3Vdc, and +12Vdc) with a maximum of 275W output power. The VME275A has a holdup time of 50ms minimum. This Military Mil-COTS power supply solution is designed to meet portions of Mil-Std-704A/E/F input requirements, Mil-Std-1275D input requirements, MIL-STD-810F vibration and shock requirements, and MIL-STD-461E/F EMI requirements. When compared to VME power supplies using conventional technology, this single slot conduction cooled dc-dc power supply converter provides users with higher efficiency (74%), lower weight (2.5 lbs), and higher power (up to 275W).

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for Mil-COTS, defense, industrial, telecomm, aircraft, shipboard, rack mount, and electric powered vehicle applications. Contact Aegis Power Systems for details on Mil-Specs that this product is designed to meet.

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

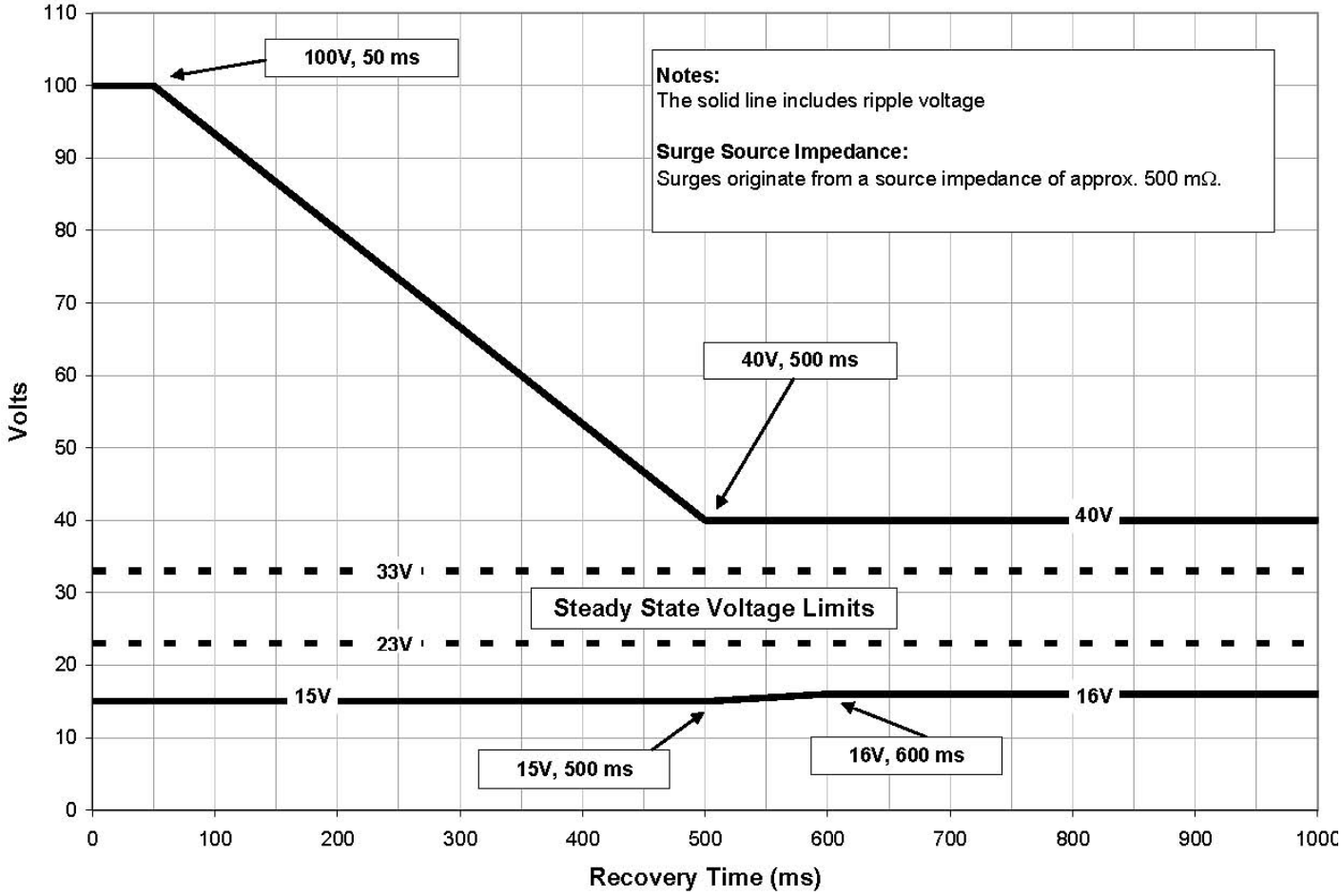
DC Input Voltage:	18VDC to 36VDC operating Range. Designed to Meet Mil-Std-704A/E/F and Mil-Std-1275D continuous operation. 22VDC to 36VDC, 28VDC nominal. 100VDC 50msec transient See attached transient Immunity Curve.
DC Input Line Current:	13.2A Typical @ 28VDC input, 75ºC at the wedgelocks.
Input Power:	372W Typical.
Output Power:	275W Maximum, all outputs combined, 75ºC at wedgelocks. 225W Maximum, all outputs combined, 85ºC at wedgelocks.
Output Voltages:	+5VDC 22.4A 112W. +3.3VDC 33.9A 112W. +12VDC 4.25A 51W.
Efficiency:	74% Typical.
Startup Time:	500 millisecond maximum.
Holdup Time:	50 milliseconds minimum.
Voltage Setpoint, Line, Load Regulation:	+/- 2% Vout nominal (for any combination).
Temperature Regulation:	+/-0.01% per ºC.
Output Ripple:	100mV pk-pk typical (20MHz BW).
Overvoltage Protection:	Recycle input power to reset (1minute off).
Current Limit:	Short Circuit protected, automatic recovery.
Temperature:	-40ºC to +75ºC Operating Wedgelocks, 275W. -40ºC to +85ºC Operating Wedgelocks, 225W. -55ºC to +100ºC Non-operating.
Dimension:	6U high x 4HP (0.8”) wide x 160mm deep.
Weight:	2.5 lb estimate.
Connector:	47 pin Positronics.
Vibration:	Designed to meet MIL-STD-810F, Method 514.5, Procedure 1.
Shock:	Designed to meet MIL-STD-810F, Method 516.5, Procedure 1.
Humidity:	0-95% non-condensing.
EMI:	Designed to meet MIL-STD-461E/F (CE102 and CS101).

Specifications subject to change without notice.

Table 2: Voltage Outputs

	V1	V2	V3
VME275L Maximum individual DC outputs	+5Vdc	+3.3Vdc	+12Vdc
	22.4A	33.9A	4.25A
	112W	112W	51W
Maximum total output power is 275W (all DC outputs combined).			

Figure 1: VME275L Transient Immunity



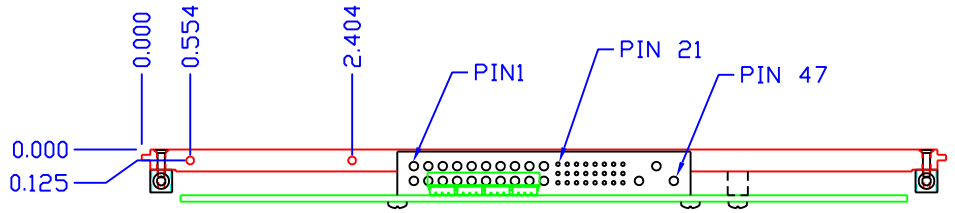
Unit ride through 15V, 500ms @ 275W max. output power
Unit shut down below 15V input, automatic restart

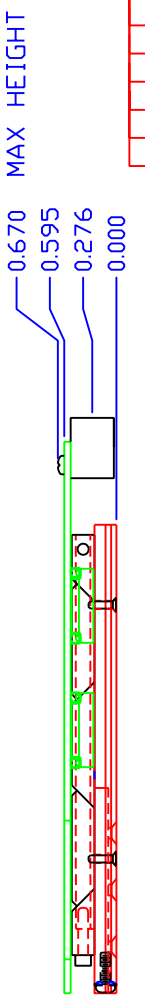
NOTES: UNLESS OTHERWISE SPECIFIED

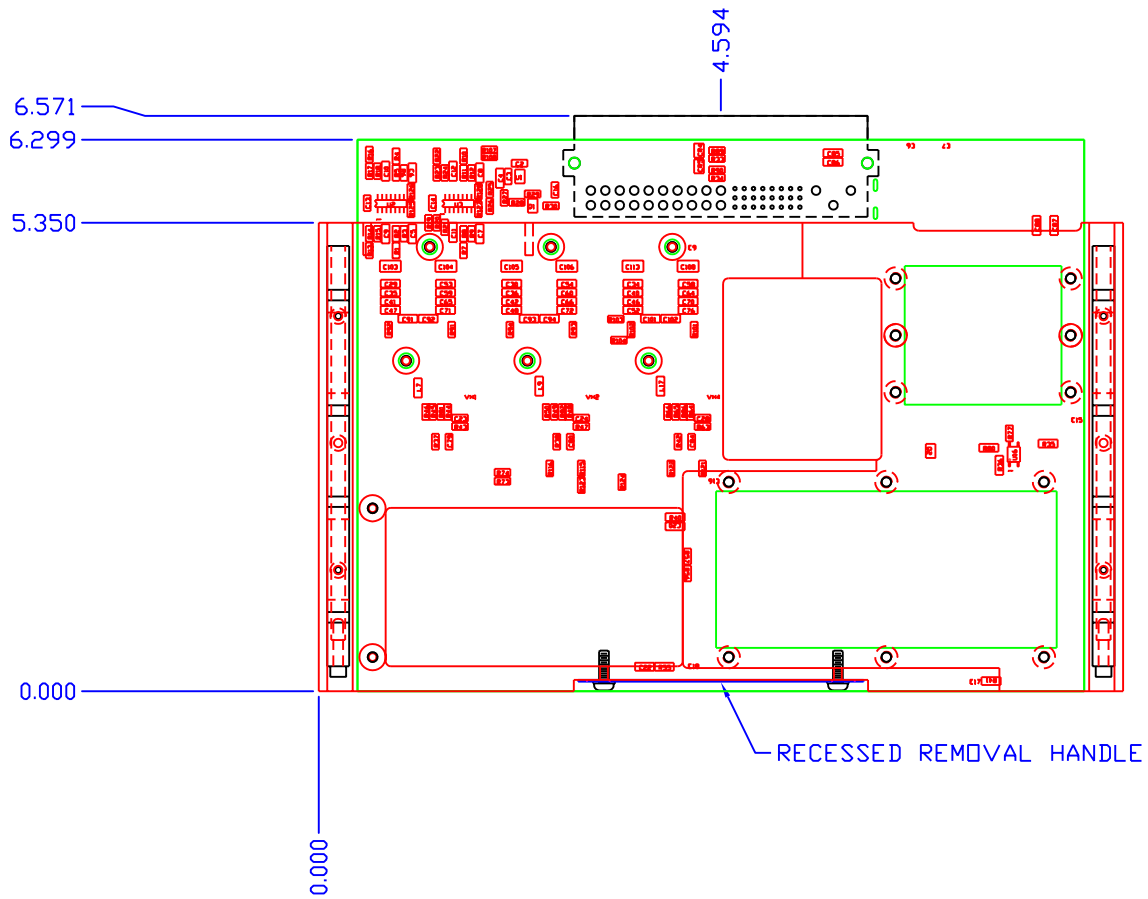
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
2. MATERIAL:
3. FINISH:

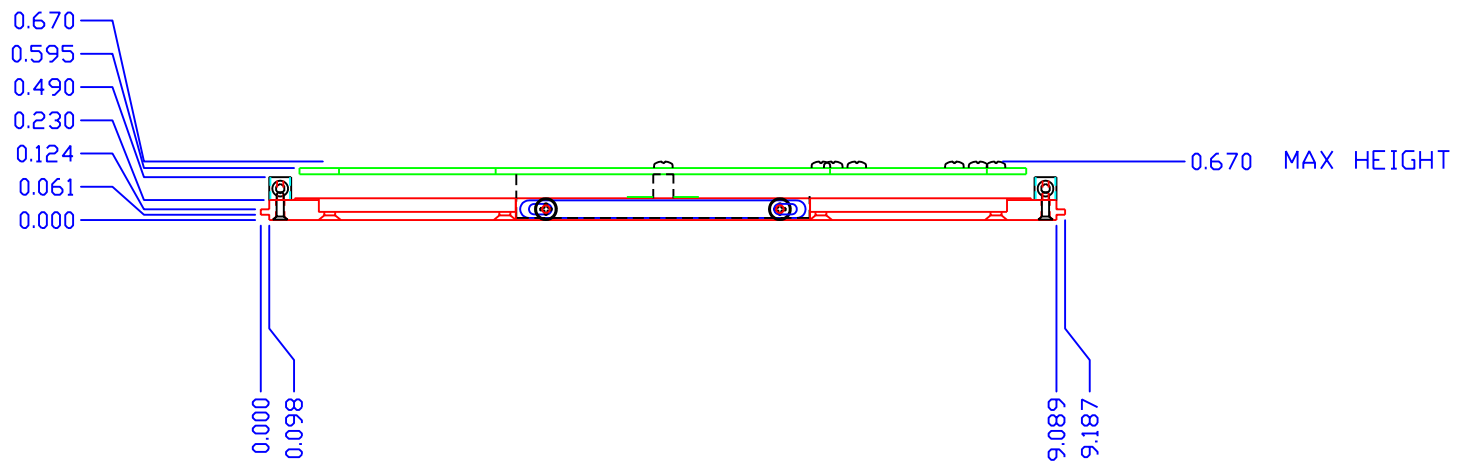
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	02/10/09	MRA

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









CONNECTOR POSITRONIC P/N PCIH47M400A1, OR EQ.

PINS 1, 2, 3 - V1 OUTPUT
PINS 4, 5, 6 - V1 COMMON RTN
PINS 7, 8, 10 - V2 COMMON RTN
PINS 9, 11, 12 - V2 OUTPUT
PIN 13, 14 - NC
PIN 15, 16 - NC
PIN 17, 18 - V4 COMMON RTN
PIN 19, 20 - V4 OUTPUT
PIN 21 - INHIBIT 2 (CONNECTED TO NEG INPUT = DISABLED)
PIN 22 - SIGNAL RTN (COMMON)
PINS 23, 24, 25, 26, 27, 28, 29 - NC
PIN 30 - NC
PIN 31 - NC
PIN 32 - NC
PIN 33, 34, 35, 36, 37, 38 - NC
PIN 39 - INHIBIT 1 (CONNECTED TO NEG INPUT = DISABLED)
PINS 40, 41 - NC
PIN 42 - POWER OK, (OPEN COLLECTOR = FAIL)
PINS 43, 44 - NC
PIN 45 - CHASSIS GND
PIN 46 - POSITIVE INPUT
PIN 47 - NEGATIVE INPUT

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

APPROVALS	DATE
DRAWN JFS	07/03/07
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

CONTRACT NO.

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: VME275L MECH LAYOUT

AEGIS P/N: VME275L

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	VME275L-M00	C01

SCALE 1/1 SHEET 1 OF 1