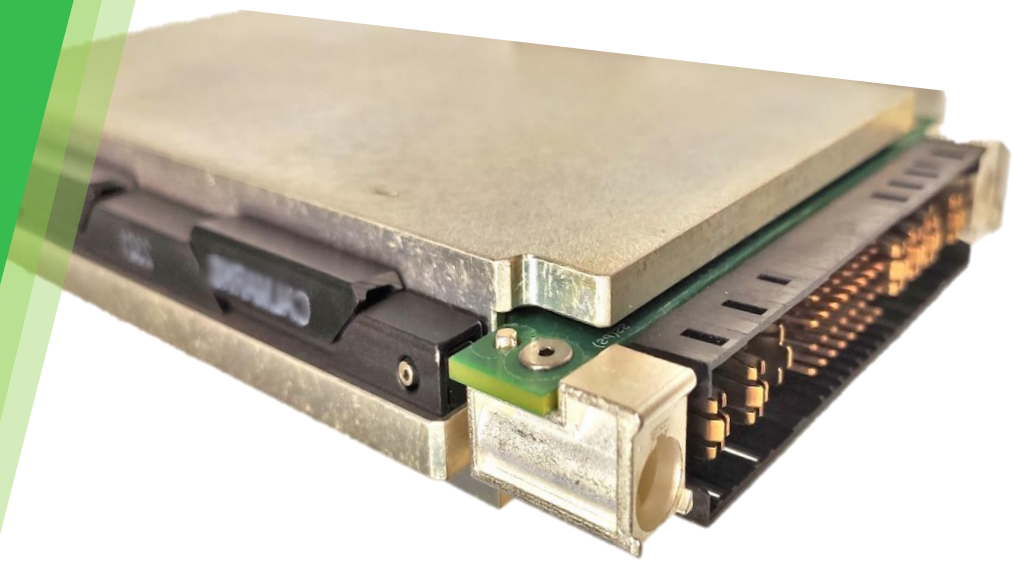
OHM POWER SOLUTIONS

VITA300

300Watt

Dual Output Isolated
DC/DC Converter



Features:

- Designed to Meet MIL-STD-704A, MIL-STD-810F
- High Efficiency – up to 85% (*Full Load @ 25°C*)
- Holdup at full load - 50ms
- Fully protected for Over Load/Short, Over-voltage and Over-Temperature
- Two outputs
- No external EMI filter needed
- VITA 3U VPX form factor

Typical applications:

- Military
- Ruggedized
- Telecom
- Industrial

General specification	
DC Input	
Input voltage range	16-32V_{DC}
Input Per MIL-STD-704A-F	Full performance under NORMAL ABNORMAL and TRANSFER transients
Protection	Reverse Polarity Protection
DC Output	
Output voltage / Current	See table below
Holdup	Full load for 50ms
Line Load & Temperature regulation	< +/-2%
Current limit on each output	115% - 130% of rated current
OVP	Over-Voltage on each output
Turn on Transient	No turn on transient
Sequence	+3.3V_AUX is powered more than 100mSec prior to +12V
Load Transient	No Overshoot
Isolation	
Input to Output:	500 V_{DC}
Input to Case:	500 V_{DC}
Output to Case:	500 V_{DC}
Environmental	
Operating Temperature	–54°C +85°C Base plate
Over-Temperature protection	at 105°C with auto recovery
Shock & Vibration	per MIL-STD-810G
EMI-RFI	per MIL-STD-461G, CE102, CS101, CS114, CS115, CS116, CS118, RE102, RS103
Mechanical	
Size	168.52mm x 100.00mm x 24.62mm
Weight	<750 gram
Cooling	Base plate
Input/Output connector	TE Connectivity 6450849-7 or eq. (mate with a 1-6450869-4 connector)

General specification	
Interface	
I2C Bus	ALARMS, STATUS, & CONFIGURATION INFORMATION
Control Signals	

I2C:
PS has one I2C channel.

Control Inputs		Power Outputs	
ENABLE	**INHIBIT**	**3.3V_AUX**	**12V**
High	High	Off	Off
High	Low	Off	Off
Low	High	On	On
Low	Low	On	Off

ENABLE:
A logic LOW activates the 3.3V_AUX.
A logic HIGH turns the PSU off.

INHIBIT:
Logic HIGH shall activate the +12V output

SYSRESET:
A LOGIC low output during power up/down sequence, turns HIGH when outputs are in limits.
SYSRESET is asserted for a minimum of 10mSec, measured from the time that power has stabilized.

FAIL:
The PSU asserts a logic LOW if one or more of output voltages present Power Fault.

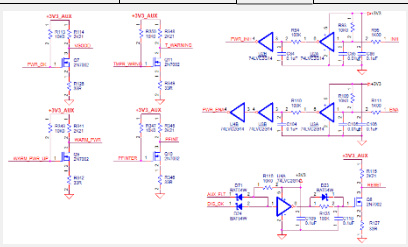
PFI:
The PSU asserts a logic LOW after an occurrence of any conditions (VIN level, Thermal Shut Down or turn off command by ENABLE).
PFI also indicates about start of Hold Up process. The Hold Up circuit monitors (Comparator) and informs HOLD_UP_OK provided by I2C bus.

WARM_POWER_UP_IND:
The PSU asserts a logic LOW to indicate that a power OFF occurred for less than 3 seconds commanded by the ENABLE discrete or by input power toggling.

TEMP_WARNING:
The PSU asserts a logic LOW when the PSU internal sense temperature exceeds the warning temperature programmed via the I2C bus.

PSU_THERMAL_OVERRIDE:
A Logic low prevents the PSU from shutting down if the detected internal temperature exceeds the programmed maximum temperature. This does not prevent the TEMP_WARNING discrete from activating when the temperature exceeds the programmed warning

Signal	Termination	Input / Output	Active High/Low	Internal PSU * Termination	Voltage Interface
a. PFI	2.2K, Pull Up	Input	LOW	Pull up	3.3V
b. WARM_PWR_UP_IND	-	Input	LOW	Pull up	3.3V
c. FAIL	2.2K, Pull Up	Input	LOW	Pull up	3.3V
d. INHIBIT	2.2K, Pull Up	Output	LOW	Open collector with pull up	3.3V
e. ENABLE	2.2K, Pull Up	Output	LOW	Open collector with pull up	3.3V
f. TEMP_WARNING	2.2K, Pull Up	Output	LOW	Open collector with pull up	3.3V
g. SYSRESET	2.2K, Pull Up	Output	LOW	Open collector with pull up	3.3V



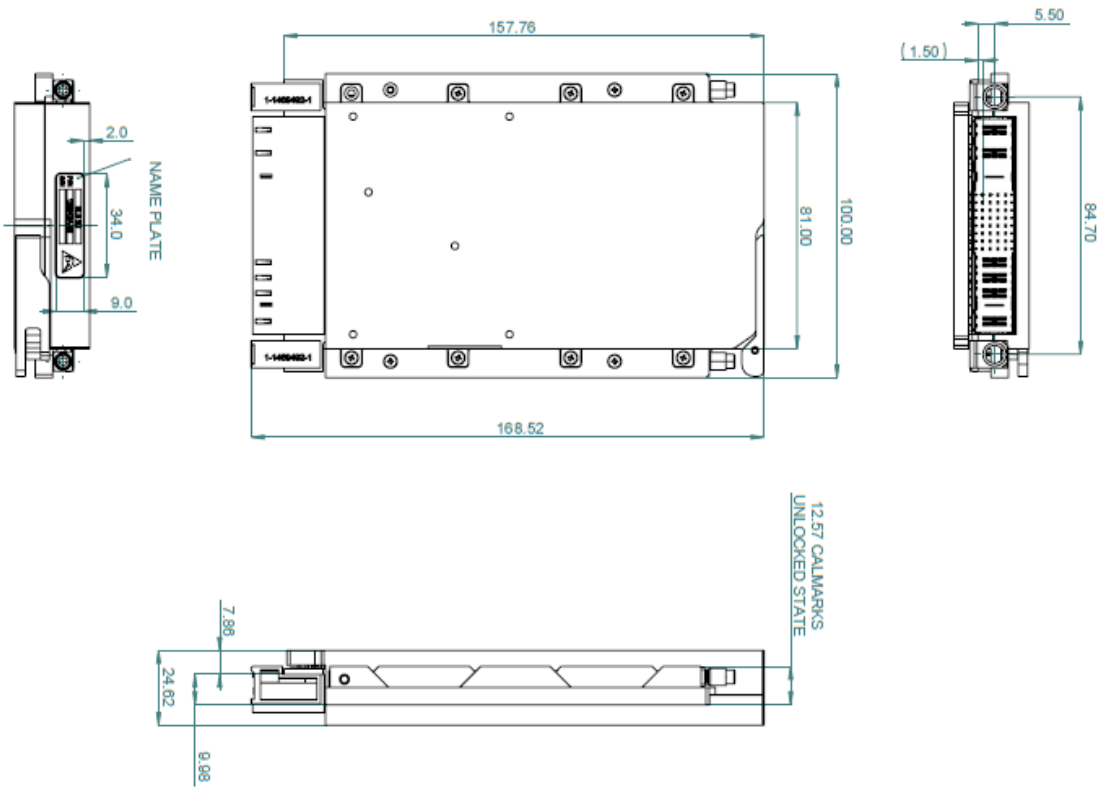
Ordering Information

MODEL #	OUTPUT #	INPUT Voltage (V)	OUTPUT Voltage (V)	OUTPUT Current (A)	POWER (W)	R&N (mV)
VITA300	1	16-32	+12	24	288	100
	1		+3.3	5	16.5	50

PIN Assignment

PIN #	PIN Function	PIN #	PIN Function	PIN #	PIN Function	PIN #	PIN Function
P1	+28V_IN_RTN	A3	TEMP_WARNING	D5	I2C_SCL_LINE A	C8	Not Connected
P2	+28V_IN	B3	Not Connected	A6	I2C_SCL_LINE B	D8	SENSE_RTN
LP1	CHASSIS	C3	Not Connected	B6	I2C_SCL_LINE B	P3	Not Connected
A1	Not Connected	D3	Not Connected	C6	Not Connected	P4	POWER_RTN
B1	PSU_THERMINAL_OVERRIDE	A4	+3.3V_AUX	D6	SYSRESET	P5	POWER_RTN
C1	PFI	B4	+3.3V_AUX	A7	Not Connected	LP2	Not Connected
D1	WARM_PWR_UP_IND	C4	+3.3V_AUX	B7	Not Connected	P6	+12V
A2	Not Connected	D4	+3.3V_AUX	C7	Not Connected		
B2	FAIL	A5	GA0	D7	SIGNAL_RTN		
C2	INHIBIT	B5	GA1	A8	+12V_SENSE		
D2	ENABLE	C5	I2C_SCL_LINE A	B8	Not Connected		

Outline Drawing



Note: Specifications are subject to change without prior notice by the manufacturer.
Additional configurations and modifications available. Contact us for more details.