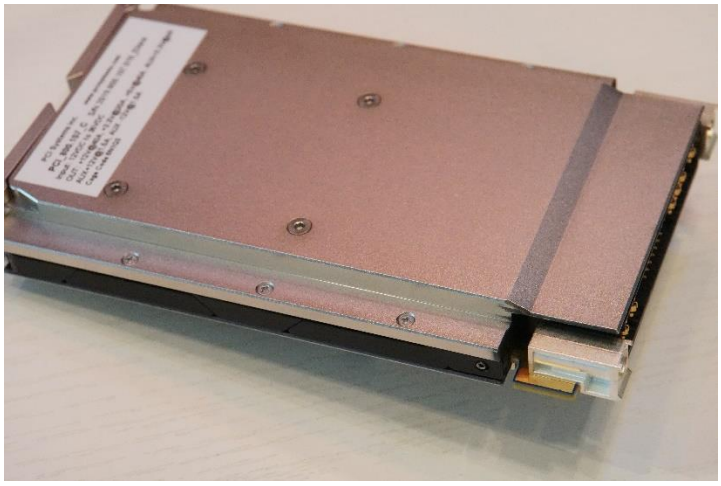
Datasheet

VITA 62 POWER SUPPLY LINE

PCI_800.102

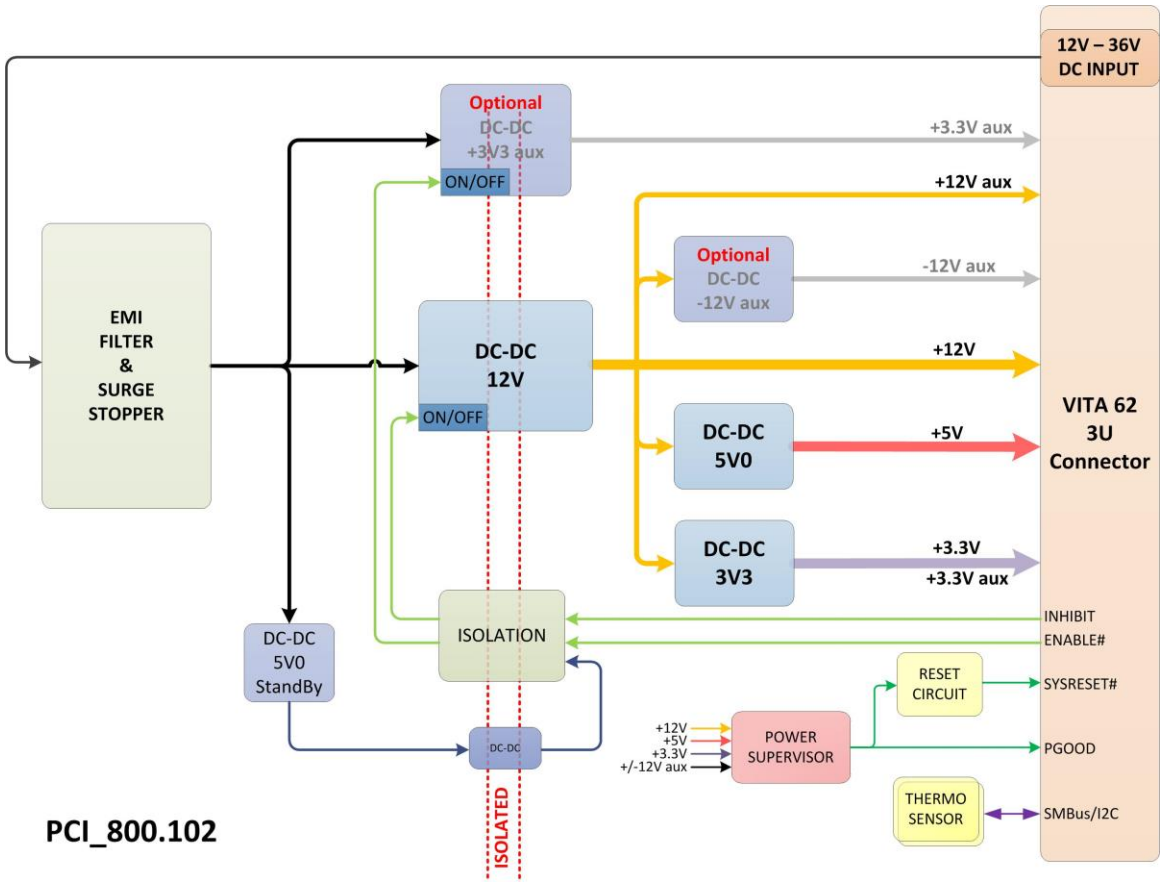


Key Features:

- 12-36V Continuous Input Voltage
- 2300V Isolation Between Input /Output
- Active Input EMI Filtering
- Transient look ahead/cut-off technology
- 6 Voltage output Rails, +/-12V aux optional
- Isolated 3.3V aux standby feature optional
- 400W Maximum Power
- 92% Typical Efficiency
- -40°C to 85°C Operating Temperature
- VITA 62 3U Form Factor
- Patent pending **FourRail** thermal interface

VITA 62 3U ISOLATED 400W 28VDC POWER SUPPLY

This 3U power supply works with **12 to 36 VDC (28VDC nominal) input** voltage and isolates the input voltage ground from the output voltage ground. The power supply is **conduction cooled**, uses **poly-phase** technology on all voltage rails and can provide up to **400 watts**. It is suitable for use in **mission critical rugged applications**.



Overview	
P/N	**PCI_800.102**
VITA Compliant	**VITA62**
Size	**3U**
Temp. Range	**-40 +85 C**
Input (AC or DC)	**DC**
Input Range (VDC)	**12-36**
Active EMI Filtering	**YES**
Power (W, max.)	**400**
Efficiency (%, typ.)	**92**
# of outputs	**6**

OUTPUTS (Total output not to exceed 400W)	
VS1, V@A	**+12@30A**
VS2, V@A	**+3.3@30A**
VS3, V@A	**+5@30A**
AUX, V@A optional	**+3.3@4A**
AUX, V@A	**+12@1.5A**
AUX, V@A optional	**-12@1.5A**

FEATURES	
Over-current Protection	**YES**
Over-voltage Protection	**YES**
Over-temperature Protection	**YES**
Current Sharing	**NO**
Remote Sense	**YES**
Standard Control	**YES, VITA62**
Extended Control	**NO**

COMPLIANCE	
VITA62	**YES**
MIL-STD-704 (B-F)	**YES**
MIL-STD-461	**YES**
MIL-STD-810G	**YES**
* ESD Protection	**YES**
* Shock	**YES**
* Vibration	**YES**
* Rapid Decompression	**YES**
* Corrosion Resistance	**YES**
* Fungus Resistance	**YES**
* Altitude	**YES**
* Humidity	**YES**

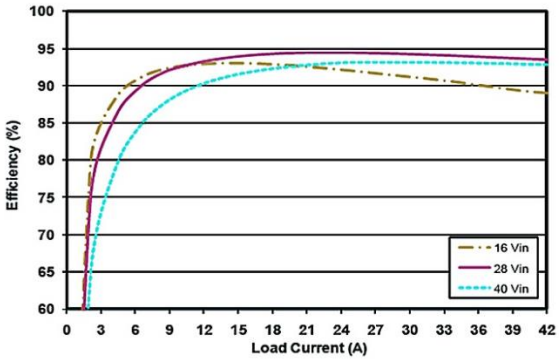
INPUT CHARACTERISTICS					
Parameter	*Min.*	*Typ.*	*Max.*	*Units*	*Notes*
Absolute Maximum Ratings					
Input Voltage					
- *Non-Operating*	**-60**		**60**	V	Continuous
- *Operating*	**-40**		**40**	V	Continuous- Reverse input Protection
- *Operating Transient Protection*			**50**	V	100ms transient, square wave
Isolation Voltage			**1500**	V	
Operating Temperature	**-40**		**85**	C	
Storage Temperature	**-55**		**105**	C	
Electrical Characteristics					
Input Voltage					
- *Continuous*	**12**		**36**	V	
- *Transient*			**50**	V	50V Transient for 100 ms
Under-Voltage Lockout					
- Turn-On Input Voltage Threshold	**11.5**	**11.8**	**12**	V	

INPUT VOLTAGE SPIKES SUPPRESSION (Vin Centered)	
+/- 250V, 100 us	**MIL-STD-1275D**
+/- 200V, 10 us	**MIL-STD-461C (CS06); DEF-STAN 61-5**
+/- 400V, 5 us	**MIL-STD-461C (CS06)**
+/- 600V, 10 us	**RTCA/DO-160E**

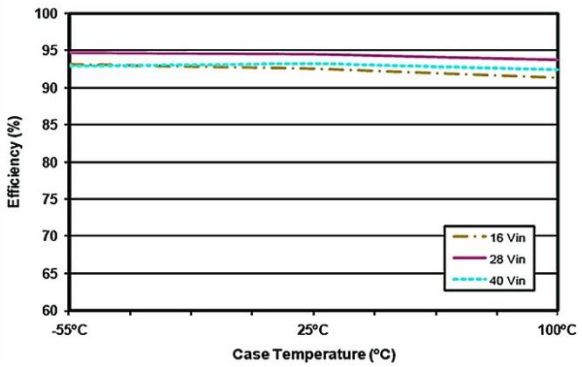
OUTPUT CHARACTERISTICS							
Parameter	*+12V*	*+5V*	*+3.3V*	*+3.3V aux*	*+12V aux*	*-12V aux*	*Notes*
Output Voltage Set Point, V	**12**	**5**	**3.3**	**3.3**	**12**	**-12**	Vin = 28V
- Drift -40 deg.C to 85degC +/- %	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	Vin = 28V
Output Voltage Ripple (pk-pk), mV	**80**	**50**	**40**	**40**	**80**	**80**	Full load with 1 uF + 10 uF tantalum capacitor
Operating Current Range, A	**0-30**	**0-30**	**0-30**	**0-4**	**0-1**	**0-1**	**400W** Total, combined Output
Over-Voltage Protection, V	**13**	**6**	**3.6**	**3.6**	**13**	**13**	
Current Limit Inception, A	**33**	**32**	**32**	**4.5**	**1.5**	**1.5**	
Maximum Output Capacitance, mF	**1**	**1**	**1**	**1**	**1**	**1**	

MODULE QUALIFICATION	
Test Name	*Method*
Random Vibration	**MIL-STD-810, 514.6 - Procedure I, Class V3**
Shock	**MIL-STD-810, 516.6 - Procedure I, VI, Class OS2**
Altitude	**MIL-STD-810, 500.5 - Procedure I, II, III**
Fungus Resistance	**MIL-STD-810, 508.6**
Corrosion Resistance	**ASTM G85, Annex A4**
Humidity	**MIL-STD-810, 507.5 - Procedure II**
High Temperature	**MIL-STD-810, 501.5 - Procedure I, II**
Low Temperature	**MIL-STD-810, 502.5 - Procedure I, II**
Temperature Cycling	**MIL-STD-202, 107 - Class C4**
ESD	**EN61000-4-2, Level 4; 15kV Air Discharge**

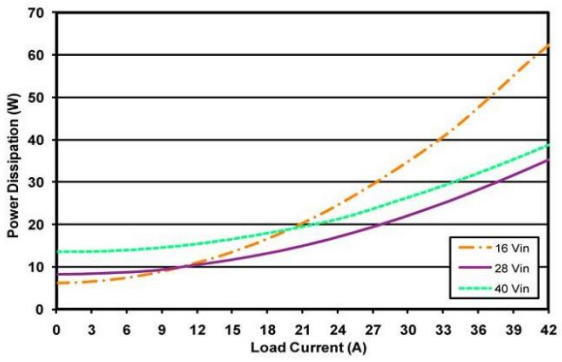
Pinout: **As per VITA 62 specification**
Mechanical Dimensions: **As per VITA 62 specification (1” pitch)**



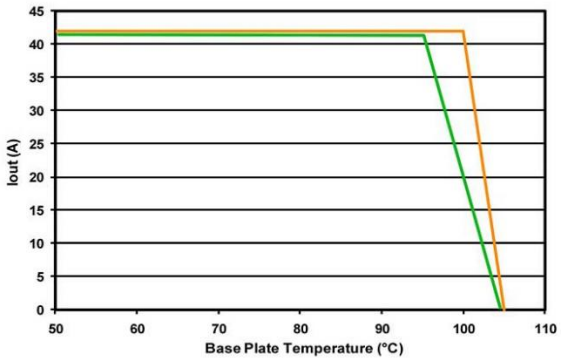
Efficiency at nominal output voltage vs. load curent for min, nom, max input V at 25°C



Efficiency at nominal output voltage and 60% rated power vs. case temp for min, nom, max input voltage



Power Dissipation at nominal output voltage vs. current at module cover 25°C (Delta T to wedgelock 7C°)



Thermal derating max current vs. temp at module cover. (Delta T to wedgelock 7C°)

ORDERING INFORMATION:

PCI_800.102_C	3U VITA 62 28VDC 400W Isolated Rugged Power Supply, conformal coated
PCI_800.102_C_OPT	3U VITA 62 28VDC 400W Isolated Rugged Power Supply, conformal coated Including isolated 3.3V aux and +/-12V aux

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