MILPOWER SOURCE
POWERFUL PRODUCTS. SMART SOLUTIONS.
7 Field Lane, Belmont, NH 03220
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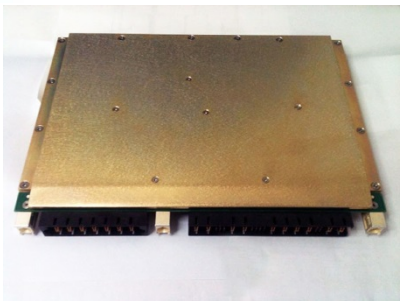
# M4066 SERIES

## VITA 62 compliant 6U VPX

**MINIATURE, HIGH DENSITY,**

**SIX OUTPUTS**

**AC/DC Converters**



### Applications

Military (Airborne, ground-fix, shipboard), Ruggedized, Telecom, Industrial

### Special Features

- VITA 62
- High efficiency
- Wide input range
- Input / Output isolation
- Remote sense
- External On/Off Inhibit
- External On/Off enable
- Fixed switching frequency (250 KHz)
- EMI/RFI filters included
- I2C communication
- Parallel Connection of outputs (optional)
- Indefinite short circuit protection with auto-recovery
- Over-voltage shutdown with auto-recovery
- Over temperature shutdown with auto-recovery
- Reverse battery protection

### Electrical Specifications

***DC Input:***
AC Input range: 103-127Vac, 400 Hz, triple phase per MIL-STD-704A

***Line/Load regulation:***
Less than <+/-1.5% (no load to full load, –55°C to +85°C).

***Ripple and Noise***:
Less than 50mVp-p, typical (max. 1%) without external capacitance. When connected to system capacitance ripple drops significantly.

***DC Output***:
Output #VS1 +15V/12A – with sense
Output #VS2 -15V/5A
Output #VS3 +8V/10.5A – with sense
Output #VS4 -8V/0.75A
Output #VS5 +5V/30A – with sense
Output #VS6 -5V/1.5A
Output voltages can be modified

***Load Transient Overshoot and undershoot***
Output resistance at load change of 50%-100% is 30-120 mΩ (depending on output voltage). Output back to steady stated within 300-500µSec

***Isolation:***
200V between Input and Output
200V between Input and Case
100V between Output and Case

***EMI/RFI:***
Design to meet MIL-STD-461E: CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103

***Efficiency :***
>86% - Typical (full load, room temperature)

***I2C***
I2C communication for temperature and signals (GAx, SCL, SDA). Voltage optional.

### Protections * (* Thresholds and protections can be modified / removed – please consult factory).

***Input***
- **Inrush Current Limiter** – peak value of 5 x Iin for less than 50µSec.
- **Under voltage protection** – unit protects itself (no damage).
- **Over voltage protection** – unit protects itself (no damage)

***Output*** *on active*
- **Passive tranzorb on outputs** – 20% above nominal voltage.
- **Current limiting** – Continuous protection (10-30% above maximum current) for unlimited time (Hiccup).

**General**
- **Over temperature protection:** Shutdown at temperature of +105°C (±5°C) Automatic recovery at temperature lower than +85°C (±5°C) on unit edge.

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**VITA 62 (6U) Power Supply Connector P1**

| Pin Number | Signal Name |
|---|---|
| P10 | +15V |
| P9 | +8V |
| A9 | +15V_SENSE |
| B9 | +8V_SENSE |
| C9 | +5V_SENSE |
| D9 | -5V |
| A8 | +15V_SENSE RET |
| B8 | +8V_SENSE RET |
| C8 | +5V_SENSE RET |
| D8 | -5V |
| A7 | -5VRET |
| B7 | -5V RET |
| C7 | -5V RET |
| D7 | SIG_RTN |
| P8 | +15V RET |
| P7 | +8V RET |
| A6 | SM2 (I2C_Clock for Bus 2) |
| B6 | SM3 (I2C_Data for Bus 2) |
| C6 | RESERVED |
| D6 | NC |
| A5 | #GAP |
| B5 | #GA4 |
| C5 | SM0 (I2C_Clock for Bus 1) |
| D5 | SM1 (I2C_Data for Bus 1) |
| A4 | #GA3 |
| B4 | #GA2 |
| C4 | #GA1 |
| D4 | #GA0 |
| A3 | -5V |
| B3 | RESERVED |
| C3 | RESERVED |
| D3 | RESERVED |
| P6 | +5V |
| P5 | +5V |
| P4 | +5V RTN |
| P3 | +5V RTN |
| A2 | NC |
| B2 | #FAIL |
| C2 | #INHIBIT |
| D2 | #ENABLE |
| A1 | -8V |
| B1 | -8V |
| C1 | -8V RET |
| D1 | -8V RET |
| P2 | -15V |
| P1 | -15V RET |

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## *DESCRIPTION OF THE PARTICULAR*

| SL No | Signal Name | Type | Description |
|---|---|---|---|
| 1 | #FAIL | Output | To indicate to other modules in the system a failure has occurred in the module. |
| 2 | #INHIBIT | Input | It controls power supply outputs. Connecting this signal to **SIG_RTN** shall turn off the output power. |
| 3 | #ENABLE | Input | It controls the input power to the power supply. This signal shall in conjunction with **#INHIBIT** can cause turn off & on the output power. Please refer to Table 1 for combination of **#INHIBIT** & **#ENABLE**. |
| 4 | (#GA0- #GA4) & #GAP | Input | It is used for geographical addressing. GA4 is the most significant bit and GA0 is the least significant bit. GAP indicates the parity. |
| 5 | SM0 & SM1 | Bi directional | It represents the I2C bus 1 Clock and Data respectively. Through this I2C bus The temperature of power supply module could be shared. |
| 6 | SM2 & SM3 | Bi directional | It represents the I2C bus 2 Clock and Data respectively. |

**Table 1**

| | | | | |
|---|---|---|---|---|
| **#INHIBIT** | Low | Low | High | High |
| **#ENABLE** | Low | High | Low | High |
| **Power Status** | "OFF" | "OFF" | "ON" | "OFF" |

**Note:** All Signals indicated with # represents "active low signal".

## *Functions and Signals - according to VITA 62*

**INHIBIT signal**
The INHIBIT signal is used to turn the power supply ON and OFF.

**Fail signal**
Outputs good signal.

**Enable signal**
The Enable signal is used to turn the outputs ON and OFF.

**VOUT SENSE**
The SENSE is used to achieve accurate load regulations at load terminals (this is done by connecting the pins directly to the load's terminals).
The use of remote sense has a limit of voltage dropout between converter's output and load terminals of 2-10% of voltage output.

**SYSRESET**
Customer Define – consult factory.

* Specifications are subject to change without prior notice by the manufacturer.

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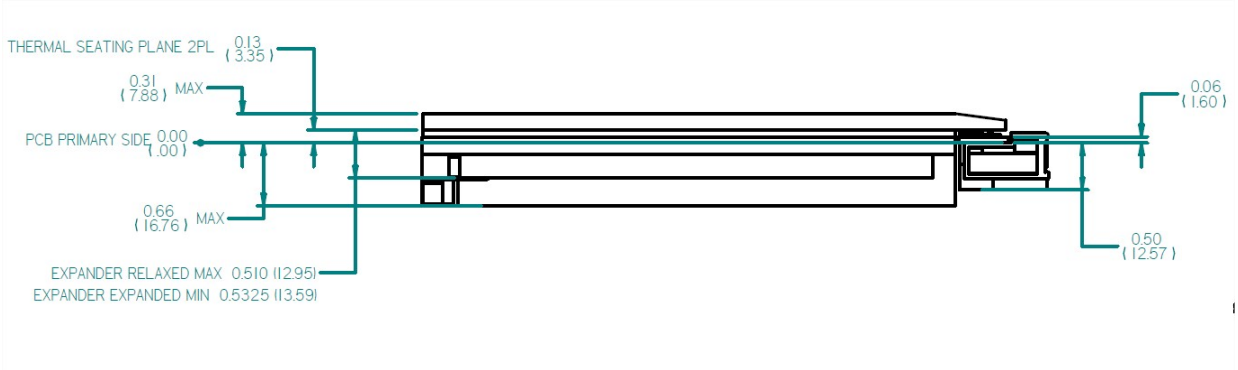
## *OUTLINE DRAWING*



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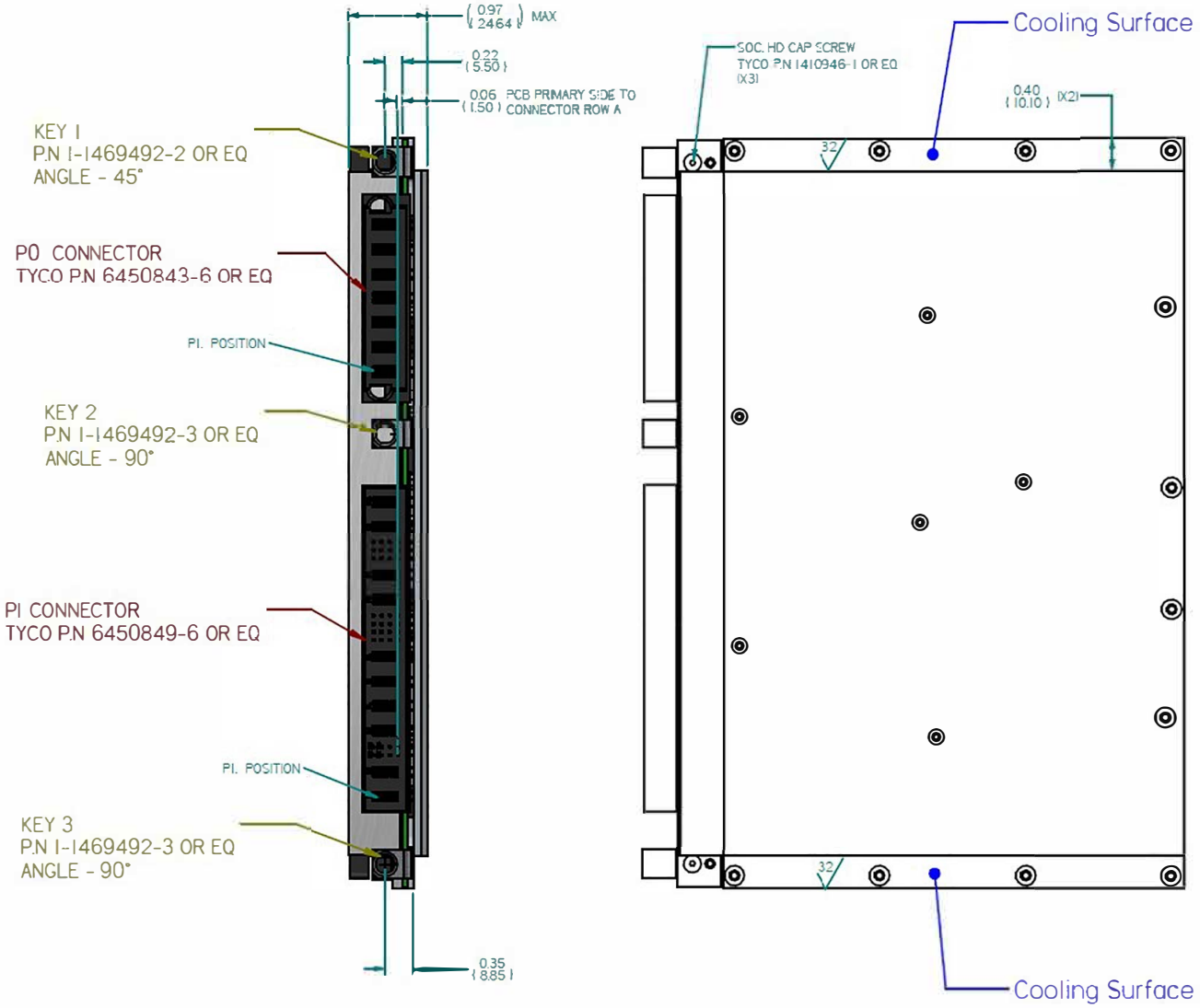


UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCH (MM).
TOLERANCES ARE:

| DECIMALS | ANGLES |
|---|---|
| .XX ± 0.01 | ± 5° |
| .XXX ± 0.05 | |

DO NOT SCALE DRAWING