**m4066 sERIEs**

6U VPX, MINIATURE, HIGH DENSITY, SIX OUTPUTS, AC/DC Converters, (Up to 500W)



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| Applications |
| Military (Airborne, ground-fix, shipboard), Ruggedized, Telecom, Industrial |
| Special Features |
| • VITA 62 mechanical outline • High efficiency• Wide input range• Input / Output isolation• Remote sense• Holdup capability | • External On/Off Inhibit• External On/Off enable• Fixed switching frequency (250 KHz)• EMI/RFI filters included• I2C communication | • Indefinite short circuit protection  with auto-recovery• Over-voltage shutdown with auto-recovery• Over temperature shutdown with auto-recovery• Reverse battery protection |
| Electrical Specifications |
| ***AC Input:***AC Input range: 103-127Vac, 400 Hz, triple phase Ride-through normal transientIAW MIL-STD-704B-F***Line/Load regulation****:*Less than <+/-1.5% (no load to full load, –55°C to +85°C). | ***DC Output***:Output #1 +15V/12A – with senseOutput #2 -15V/5A Output #3 +8V/10.5A – with senseOutput #4 -8V/0.75A Output #5 +5V/30A – with senseOutput #6 -5V/1.5A Output voltages can be modified | ***Isolation*:**200V between Input and Output200V between Input and Case100V between Output and Case***EMI/RFI:***Design to meet MIL-STD-461E:(At system level)CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103. |
| ***Ripple and Noise***: Less than 50mVp-p, typical (max. 1%),measured across 0.1µF and 10µF on load  | ***Load Transient Overshoot and undershoot***Output dynamic response up to5% at step load of 60%-90%.Output return to steady statedwithin 300-500µSec | ***Efficiency :***>86% - Typical (full load, room temperature) |
| ***I2C***I2C communication for temperature and signals (GAx, SCL, SDA). |
| **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***•**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 temperature of +105°C (±5°C) Automatic recovery at temperature lower than +85°C (±5°C) at Unit edge. |

**REVISED PIN DETAILS**

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**Pin Assignment**

**(6U) Power Supply Connector P0**

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| --- | --- |
| **Pin Number** | **Signal Name** |
| P7 | 115V, 400 Hz PH\_A |
| P6 | 115V, 400 Hz PH\_B |
| P5 | 115V, 400 Hz PH\_C |
| P4 | NC |
| P3 | NC |
| P2 | NC |
| P1 | CHASSIS\_GND |

**(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 |

**DESCRIPTION OF THE PARTICULAR SIGNALS DETAILS**

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| --- | --- | --- | --- |
| **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:**

1. All Signals indicated with # represents “active low signal”.

**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.

**Outline drawing**





