

MEFTRONICS

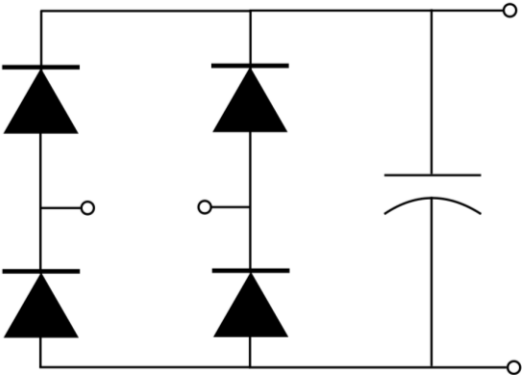
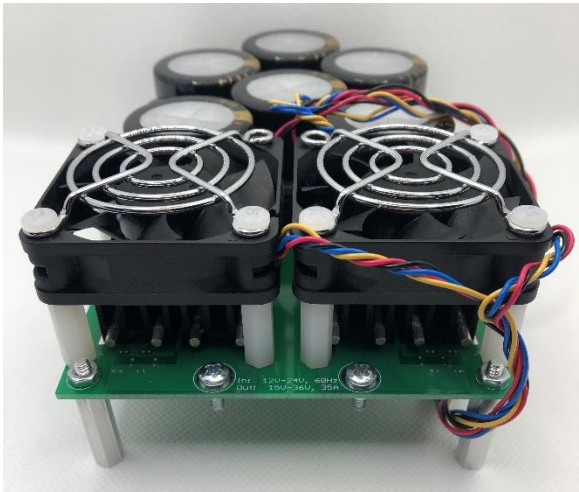
SPR- 24V-30A-BB-XX-3

Datasheet

Description:

The SPR-24V-30A-BB-XX-3 is a simple Schottky diode full-bridge rectifier that includes integrated cooling and an appropriately sized capacitor bank all on a compact and easily mounted PCB. The SPR-24V-30A-BB-XX-3 is intended to easily connect to other Meftronics modules, providing a reliable DC source and boosting DC bus capacitance. System features include:

- Up to 22A output current
- Up to 27V AC input
- Continuous power up to 600W
- Effective integrated cooling with a forced air option
- 12V, 1A auxiliary output
- Integrated 32.2mF DC bus capacitor bank
- Easy connection to Meftronics inverter DC buses



Absolute Maximum Ratings

| Parameter | | Max | Unit |
|----------------------|---------------------|-----|------------------|
| AC Input Voltage | | 27 | V _{rms} |
| DC Bus Voltage | | 38 | V |
| Diode Current | | 600 | A |
| Junction Temperature | | 150 | °C |
| Power | T _a 25°C | 600 | W |

Typical Operating Values, T_a = 25°C**General**

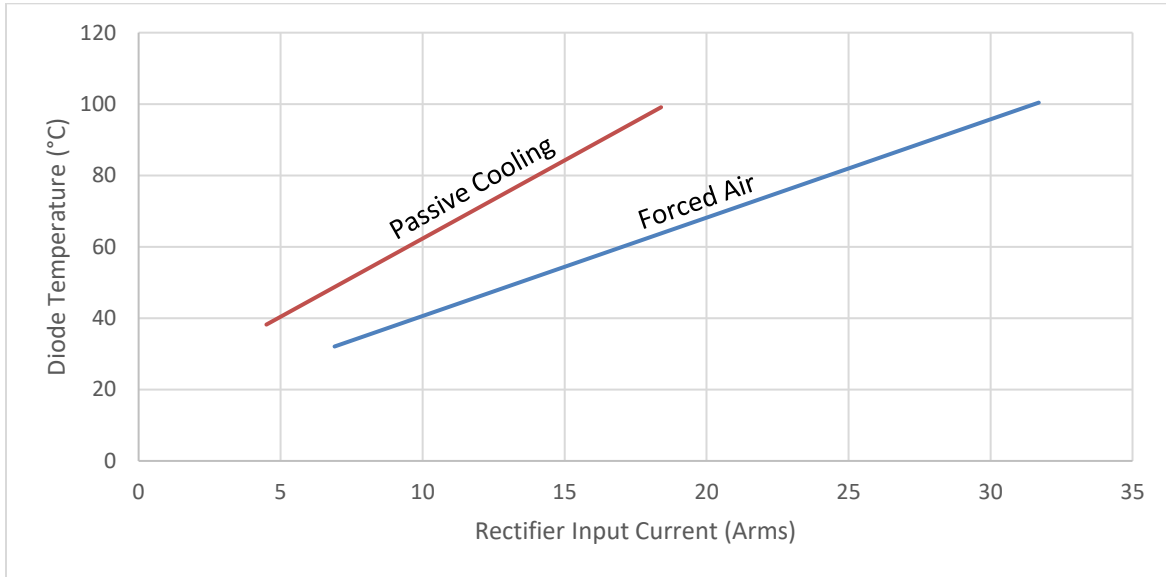
| Parameter | | Min | Typ | Max | Unit |
|---------------------------|-----------------------|------|------|------|------------------|
| AC Input Voltage | | 12 | 24 | 27 | V _{rms} |
| DC Bus Voltage | | 15 | 34 | 38 | V |
| Continuous Input Current | | | | 18 | A _{rms} |
| Continuous Output Current | | | | 12 | A |
| Continuous Input Current | *With integrated fans | | | 32 | A _{rms} |
| Continuous Output Current | *With integrated fans | | | 22 | A |
| Ripple Current @120Hz | | | | 20 | A _{rms} |
| DC Bus Capacitance | | 29.0 | 32.2 | 35.4 | mF |

Auxiliary Output

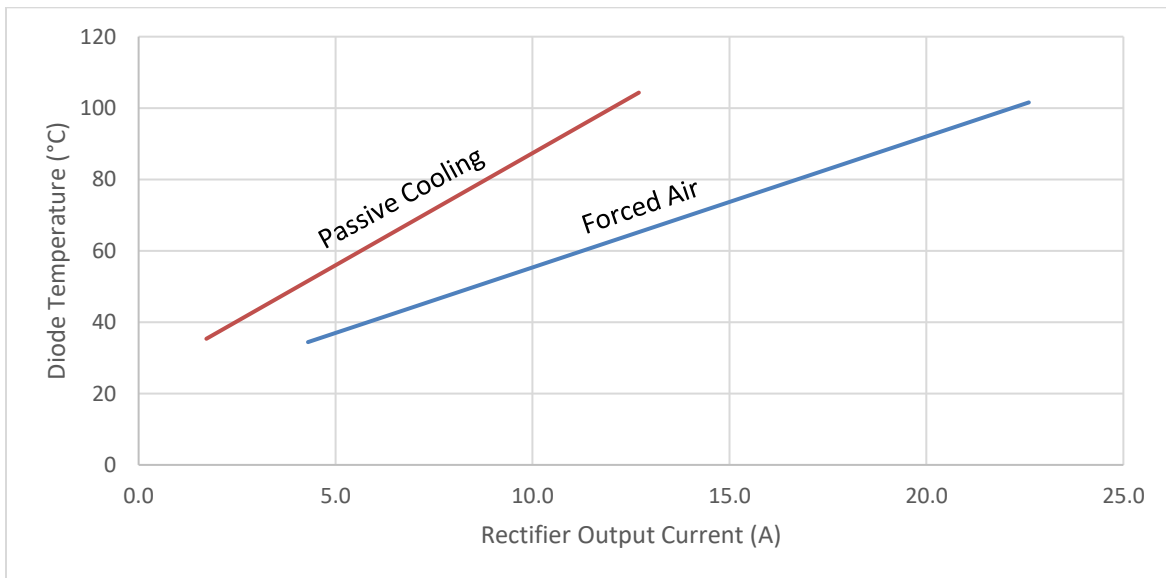
| Parameter | | Min | Typ | Max | Unit |
|----------------|--|-----|-----|-----|------|
| Output Voltage | | | 12 | | V |
| Output Current | | | | 1 | A |

Operation Curves Under Inductive Switching

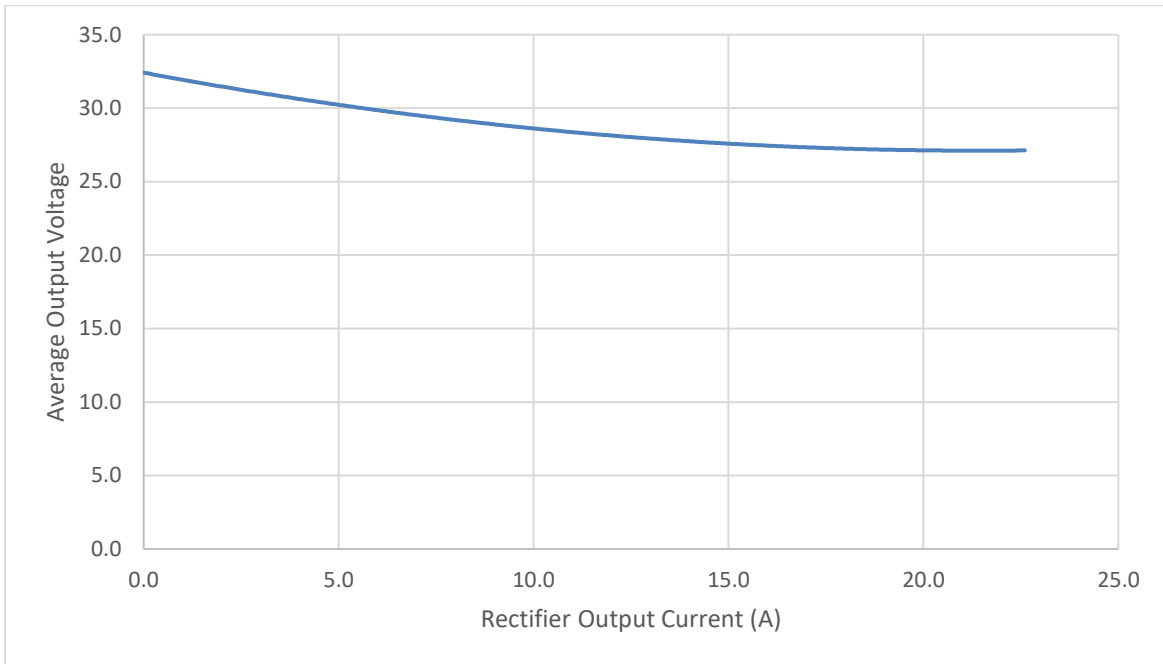
Diode Temperature vs. Input Current
 Ambient Temperature 25°C, Input Voltage 24V, 60Hz



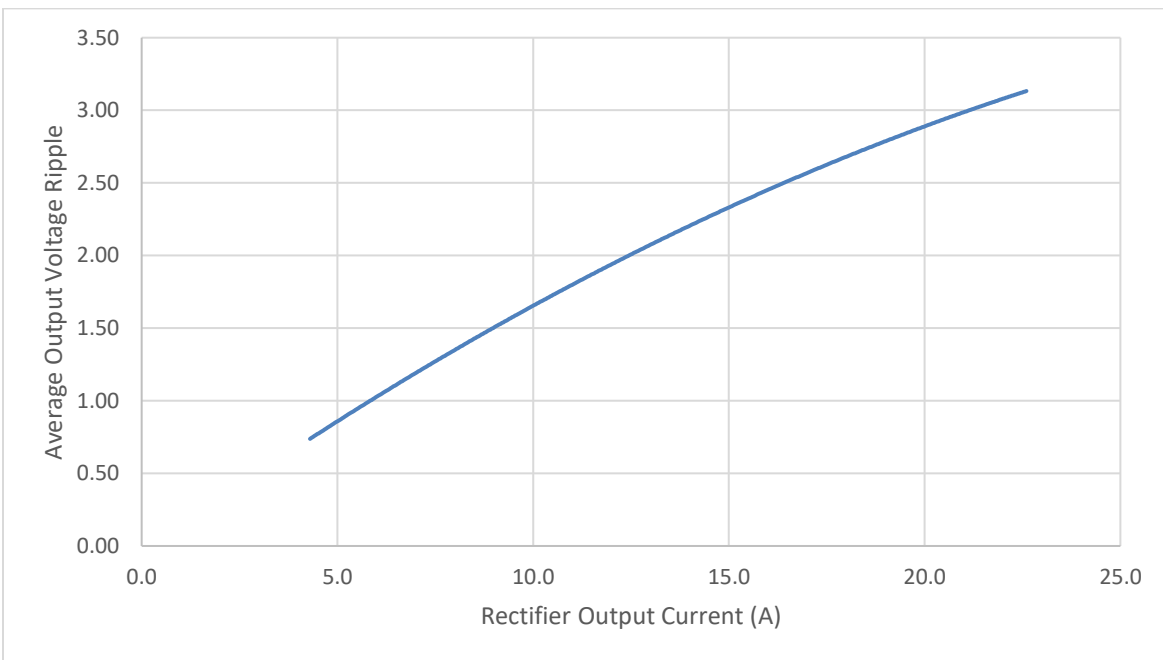
Diode Temperature vs. Output Current
 Ambient Temperature 25°C, Input Voltage 24V, 60Hz



Average Output Voltage vs. Output Current
Ambient Temperature 25°C, Input Voltage 24V, 60Hz

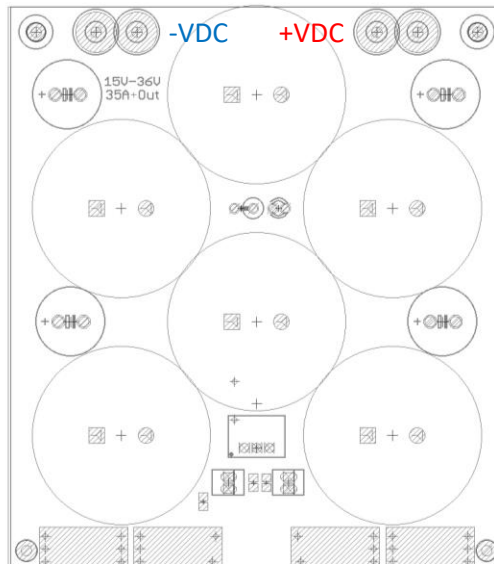


Average Output Ripple vs. Output Current
Ambient Temperature 25°C, Input Voltage 24V, 60Hz

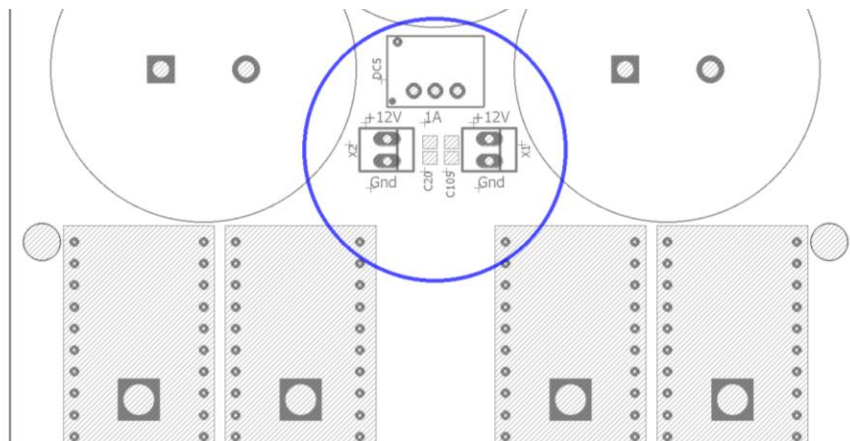


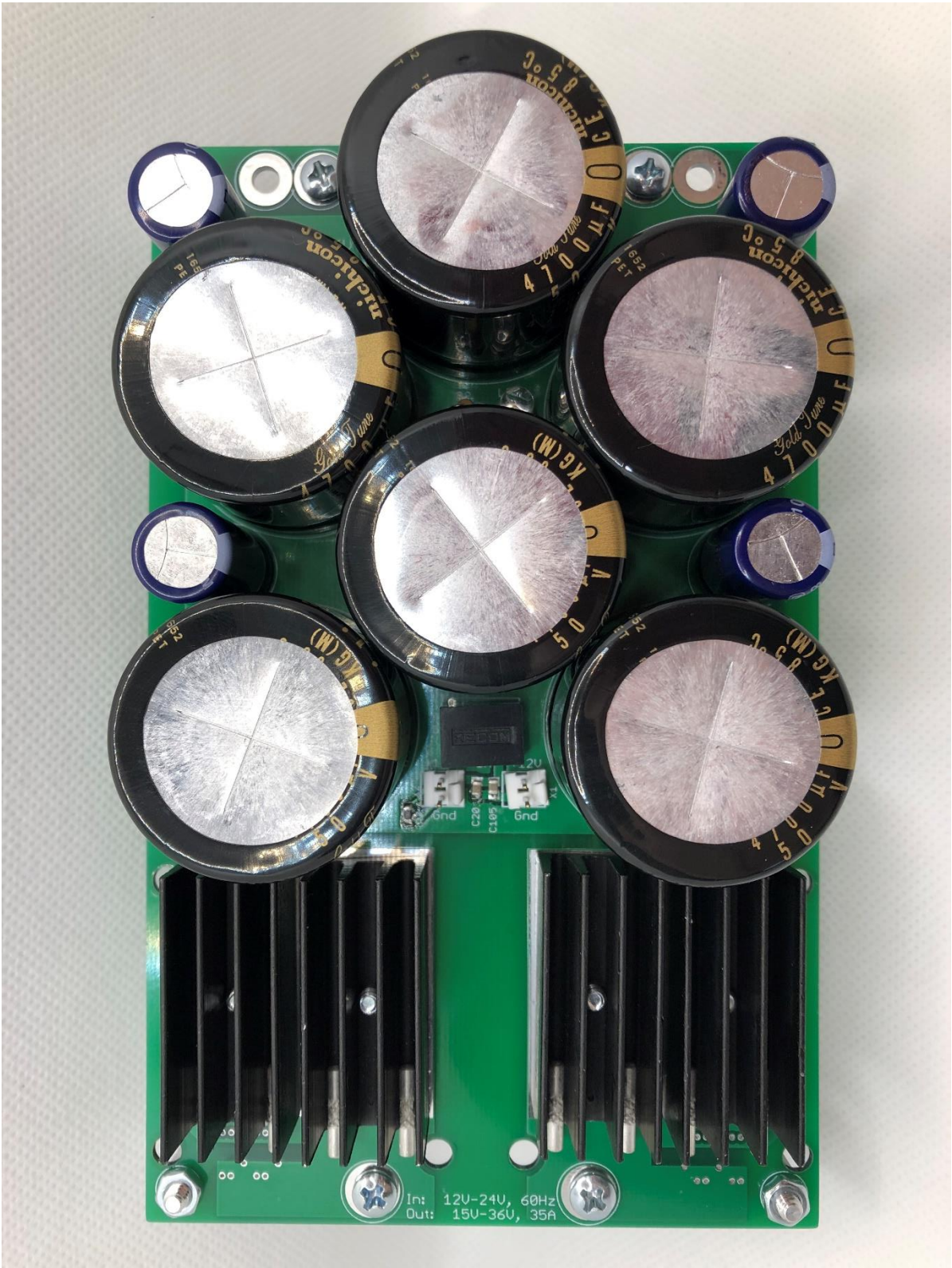
Connections and Auxiliary Power

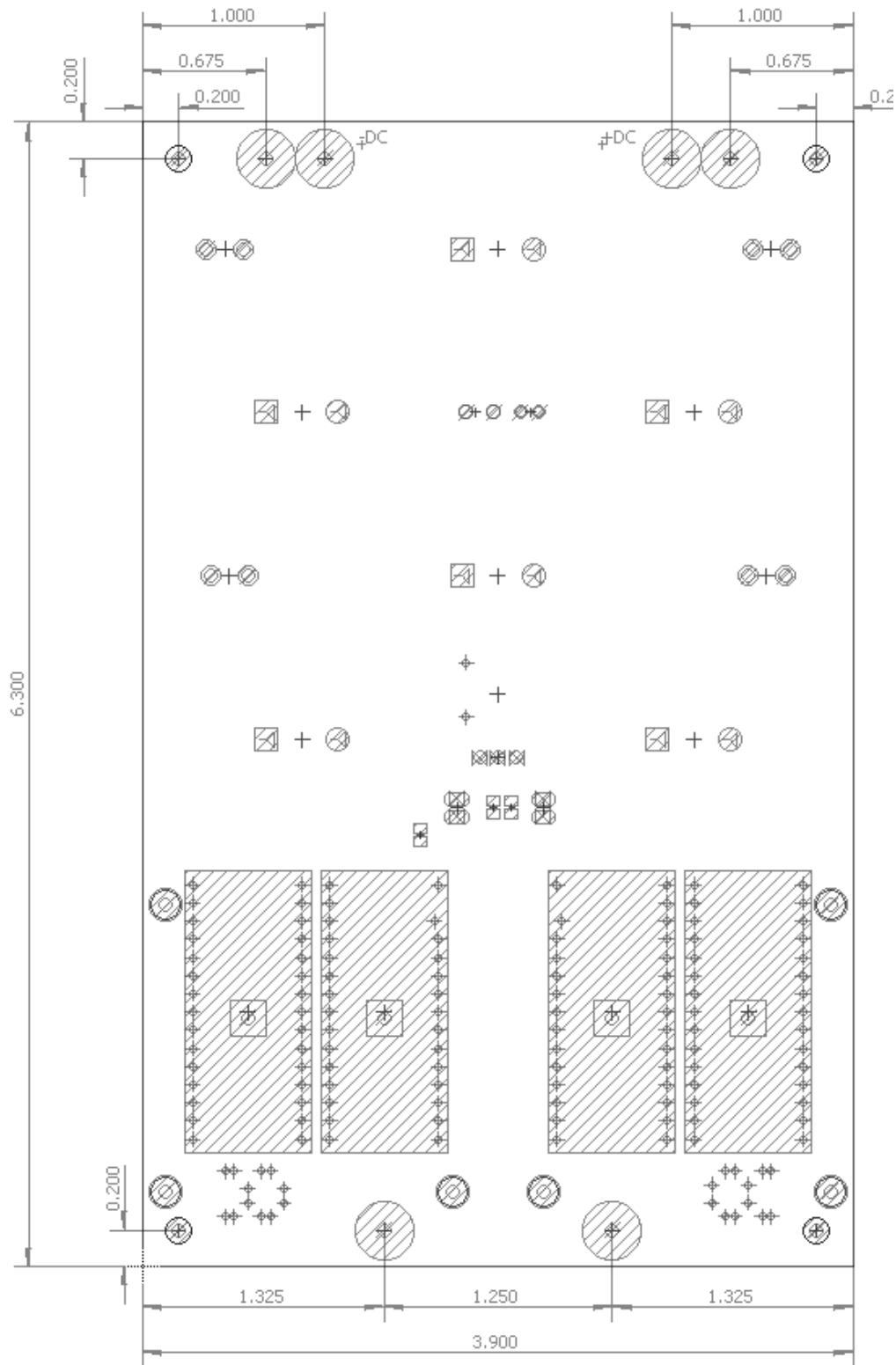
Power connections to the SPR-24V-30A-BB-XX-3 are made using the provided terminal holes, preferably through spade or ring terminals. The terminal holes are sized for #6-32 machine screws. The DC output terminals are also positioned to line up with the DC bus terminals of other Meftronics modules so that instead of using wired connections to join the two, short aluminum stand-offs can be used instead to make the connections, thereby reducing the impedance between the two modules and making connection easy.



In addition to the rectifier power connections, positions are provided for a standard three pin regulator as well as two pin connectors to tap into this regulated source. These are intended to power the 12V fans, but can of course be used for other purposes.







All dimensions in inches