

CCFL INVERTER

(For Quad Tube Applications)

GENERAL DESCRIPTION

The AC9-V2R-1901 is designed to power typically 4 CCFLs up to power levels of 20 Watts from a nominal +12V source.

Intensity control is accomplished by the user providing a DC voltage level at PIN 6 of CON1.

Enable control is accomplished at pin 5 of CON1.

A +3.3V reference voltage is available at PIN 7 of CON1 for external use.

All outputs are open and short circuit protected.

This unit is RoHS Compliant.

MECHANICAL/ENVIRONMENTAL

Weight = 40 grams

Altitude = 10,000 ft max.

Humidity < 85% non-condensing

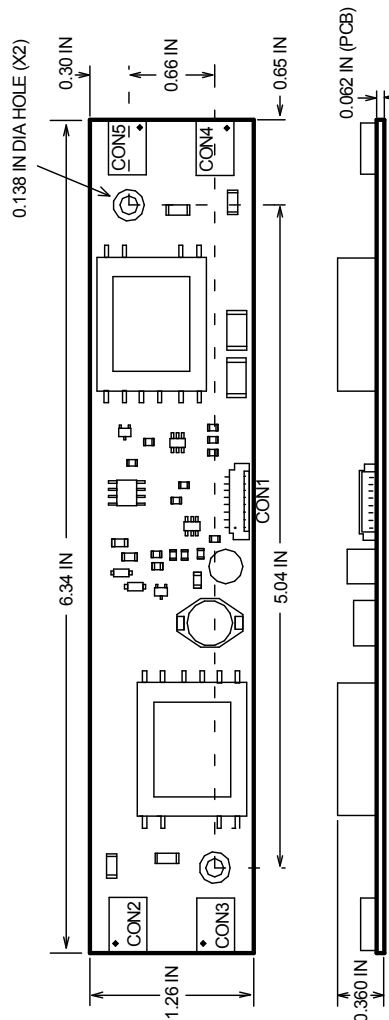
Size (L x W x H) = 6.34 IN x 1.26 IN x 0.360 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.138 IN diameter (X2)

Input Power and Control Connector = CON1

CCFL Output Connectors = CON2 – CON5



INPUT CONNECTOR
CON1
MOLEX 53261-0871

OUTPUT CONNECTOR
CON2 - CON5
JST SM02B-BHSS-1-TB(LF)(SN)

| PIN # | FUNCTION | PIN # | FUNCTION |
|-------|---------------|-------|-----------|
| 1 | +12V(PWR) | 1 | CCFL HOT |
| 2 | +12V(PWR) | 2 | CCFL COLD |
| 3 | GND(PWR) | | |
| 4 | GND(PWR) | | |
| 5 | ENABLE | | |
| 6 | VCNTL | | |
| 7 | +3.3V REF OUT | | |
| 8 | TBD | | |

MAXIMUM RATINGS*

| Symbol | Parameter | Value | Unit |
|--------|---|--------------|------|
| Vin | Supply Voltage (Referenced to Ground) | -0.7 to 14.0 | Vdc |
| Vip | Voltage applied to any Input Pin (Referenced to Ground) | -0.7 to 3.6 | Vdc |
| Iop | Current sourced or sinked from any Output Pin | +/- 10 | mAdc |
| Pin | Input Power (DC Input Voltage x DC Input Current) | 27.5 | W |
| Top | Operating Temperature (Still air ambient around Inverter) | 0 to +70 | °C |
| Tstg | Storage Temperature | -20 to +105 | °C |

*Maximum Ratings are those values beyond which damage to the inverter may occur.

RECOMMENDED OPERATING CONDITIONS

| Symbol | Parameter | Min | Max | Unit |
|--------|--|------|------|------|
| Vin | Supply Voltage (Referenced to Ground) | 10.8 | 13.2 | Vdc |
| Lsv | Cold Cathode Fluorescent Lamp Sustaining Voltage | 500 | 850 | Vrms |
| Vcntl | Intensity Control Voltage | 0 | 3.3 | Vdc |

ELECTRICAL CHARACTERISTICS

Vin = +12.0V, Lsv = 675Vrms, Vcntl = +3.3V, Enable = +3.3V unless otherwise specified

| Symbol | Parameter | Test Conditions | Min | Max | Unit |
|----------|----------------------------------|-----------------------------|------|-------|-------|
| Lstart | Lamp Starting Voltage | Open Circuit | 1800 | | Vrms |
| Lout | Lamp Output Current | | 6.75 | 8.25 | mArms |
| Lfreq | Lamp-Current Frequency | | 49 | 60 | KHz |
| Pfreq | PWM Dimming Frequency | Vcntl (PIN 6) = +1.65V | 95 | 101 | Hz |
| Pdc | PWM Duty Cycle Range | Vcntl (PIN 6) = 0 to + 3.3V | 0 | 100 | % |
| ENoff | Enable Control, unit OFF (Pin 5) | | | 0.495 | Vdc |
| ENon | Enable Control, unit ON (PIN 5) | | 1.6 | | Vdc |
| +3.3Vout | +3.3V Reference Out (PIN 7) | 10K Load to Ground | 3.13 | 3.47 | Vdc |
| Iin | Input Current Draw | | | 2.1 | Adc |
| Eff | Electrical Efficiency | | 90 | | % |