

# AC-1302A

## PRODUCT DATA SHEET

02/04/13

## CCFL INVERTER

(For Single Tube Applications)

### GENERAL DESCRIPTION

The AC-1302A is designed to power 1 CCFL tube to a nominal power level of 3 Watts from an input voltage of +12VDC.

Intensity control is accomplished by the user providing a variable DC voltage level at pin 2.

The AC-1302A is custom designed for Palomar Display Products.

Enable control is accomplished at pin 3.

All outputs are open and short circuit protected.

### MECHANICAL/ENVIRONMENTAL

Weight = 15.3 grams

Altitude = 32,800 ft max.

Humidity < 85% non-condensing

Size (L x W x H) = 2.20 IN x 1.15 IN x 0.372 IN

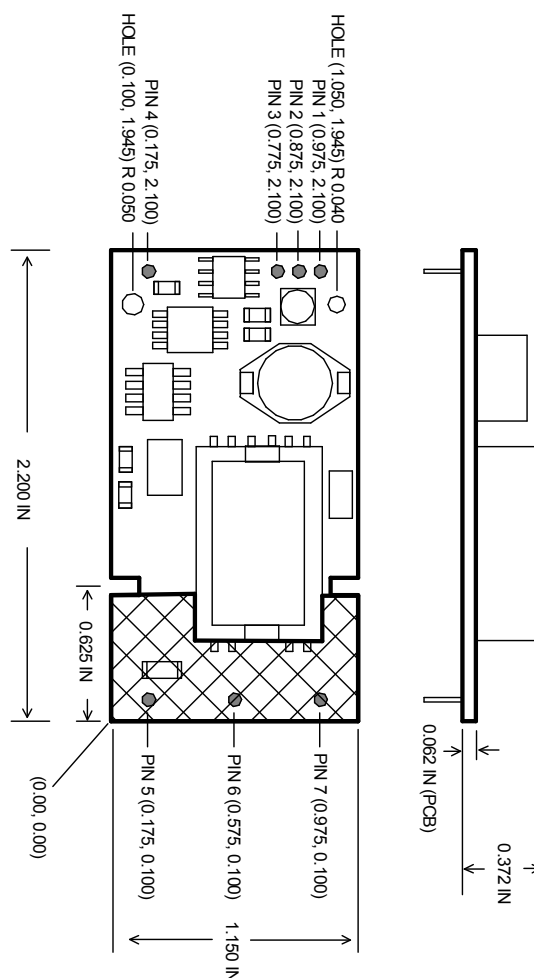
PCB thickness = 0.062 IN

Input Power and Control Pins = Pins 1, 2, 3, and 4

CCFL Output Pins = Pins 5 and 7

High Voltage area coated with 3M DP-190.

Entire Assembly Conformally Coated with Humiseal 1B73.



| PIN# | FUNCTION  |
|------|-----------|
| 1    | +12V      |
| 2    | VCNTL     |
| 3    | ENABLE    |
| 4    | GND       |
| 5    | HV OUT 1  |
| 6    | N/C       |
| 7    | HV COMMON |

### 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 5.7  | Vdc  |
| Iop    | Current sourced or sinked from any Output Pin             | +/- 10       | mAdc |
| Pin    | Input Power (DC Input Voltage x DC Input Current)         | 4.0          | W    |
| Top    | Operating Temperature (Still air ambient around Inverter) | -20 to +70   | °C   |
| Tstg   | Storage Temperature                                       | -40 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 | 400  | 660  | Vrms |
| Vcntl  | Intensity Control                                | 0.31 | 3.8  | Vdc  |

### ELECTRICAL CHARACTERISTICS

Vin = +12.0V, Lsv = 530Vrms, Vcntl = +3.8V, Enable = +5.0V unless otherwise specified

| Symbol | Parameter                        | Test Conditions                 | Min  | Nom  | Max | Unit  |
|--------|----------------------------------|---------------------------------|------|------|-----|-------|
| Lstart | Lamp Starting Voltage            | Open Circuit                    | 1650 |      |     | Vrms  |
| Lout   | Lamp Output Current              |                                 | 5.0  | 5.5  | 6.0 | mArms |
| Lfreq  | Lamp-Current Frequency           |                                 | 42   | 46.5 | 51  | KHz   |
| Pfreq  | PWM Dimming Frequency            | Vcntl (Pin 2) = +1.9V           | 95   |      | 101 | Hz    |
| Pdc    | PWM Duty Cycle Range             | Vcntl (Pin 2) = +0.31V to +3.8V | 0    |      | 100 | %     |
| ENoff  | Enable Control, unit OFF (Pin 3) |                                 |      |      | 0.8 | Vdc   |
| ENon   | Enable Control, unit ON (Pin 3)  |                                 | 2.0  |      |     | Vdc   |
| Iin    | Input Current Draw               |                                 |      | 0.32 |     | Adc   |
| Eff    | Electrical Efficiency            |                                 |      | 90   |     | %     |