

## CCFL INVERTER

(For Multiple Tube Applications)

### GENERAL DESCRIPTION

The AC3-12-1902 is designed to power 2 CCFLs to a nominal power level of 12 Watts from a +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 +5V reference voltage is available at PIN 7 of CON1 for external use.

The PWM dimming frequency of the inverter can be synchronized to the LCD frame rate via PIN 8 of CON1.

All outputs are open and short circuit protected.

### MECHANICAL/ENVIRONMENTAL

Weight = 20 grams

Altitude = 10,000 ft max.

Humidity < 85% non-condensing

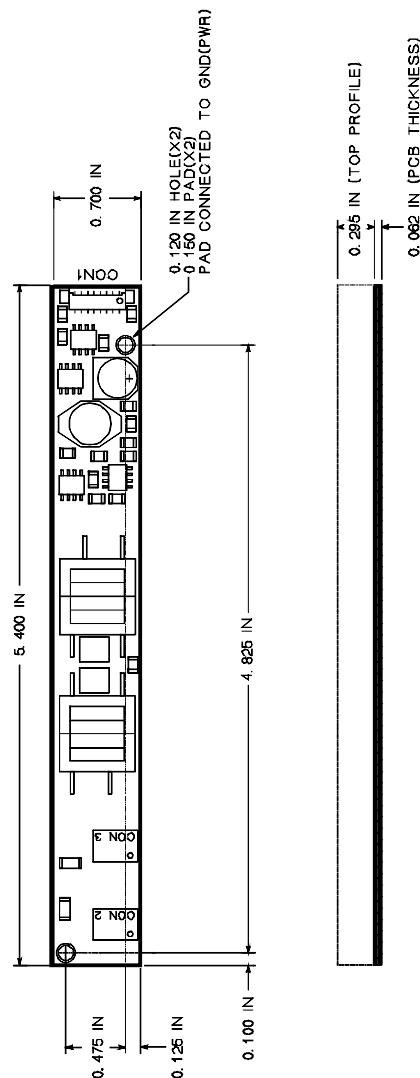
Size (L x W x H) = 5.4 IN x 0.7 IN x 0.357 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X2)

Input Power & Control Connector = CON1

CCFL Output Connectors = CON2 and CON3



INPUT CONNECTOR  
CON1  
MOLEX 53261-0871

PIN #	FUNCTION
1	-VIN(PWR)
2	-VIN(PWR)
3	GND(PWR)
4	GND(PWR)
5	ENABLE
6	INTENSITY CNTL
7	+5V REF OUT
8	VSYNC IN

OUTPUT CONNECTORS  
CON2/CON3  
JST SM02B-BHSS-1-TB(LF)(SN)

PIN #	FUNCTION
1	CCFL HOT
2	CCFL COLD

### 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)	16.3	W
Top	Operating Temperature (Still air ambient around Inverter)	0 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	562	938	Vrms
VSYif	Vertical Synchronization Input Frequency	48	62	Hz
Vcntl	Intensity Control Voltage	0.5	4.5	Vdc

### ELECTRICAL CHARACTERISTICS

Vin = +12.0V, Lsv = 750Vrms, Vcntl = +4.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage	Open Circuit	2000		Vrms
Lout	Lamp Output Current		7.2	8.8	mArms
Lfreq	Lamp-Current Frequency		37.8	46.2	KHz
Pfreq	PWM Dimming Frequency	Vcntl (PIN 6) = +2.5V Vsync-In (Pin 8) = 0V Vsync-In (PIN 8) = 60 Hz	95 119.8	101 120.2	Hz Hz
Pdc	PWM Duty Cycle Range	Vcntl (PIN 6) = +0.5 to +4.5V	0	100	%
ENoff	Enable Control	unit OFF (Pin 5)		0.8	Vdc
ENon	Enable Control	unit ON (PIN 5)	2.0		Vdc
VSYhi	Vertical Sync In	HI Level (PIN 8)	3.5		Vdc
VSYlo	Vertical Sync In	LO Level (PIN 8)		0.8	Vdc
+5Vout	+5V Reference Out (PIN 7)	10K Load to Ground	4.6	5.25	Vdc
Iin	Input Current Draw			1.3	Adc
Eff	Electrical Efficiency		90		%