



**APPLIED
CONCEPTS INC.**

397 Route 281 - P.O. BOX 1175
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Phone: (315) 696-6676 Fax: (315) 696-9923
www.acipower.com

ACJ-V3-1520

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CCFL INVERTER

(For Dual Tube Applications)

02/17/05

GENERAL DESCRIPTION

The ACJ-V3-1520 is designed to power 2 CCFL's at a nominal current level of 7mA/tube and is regulated over an input voltage range of +8V to +18V.

The ACJ-V3-1520 features analog dimming control via a dc control level @ pin 6 of CON1. A dc reference voltage(+5V) is available @ pin 7 of CON1 for external use.

Enable control is accomplished @ pin 5 of CON1.

All outputs are open and short circuit protected.

MECHANICAL / ENVIRONMENTAL

Weight = 21.5 grams

Altitude = 10,000 Ft maximum

Humidity < 85% non-condensing

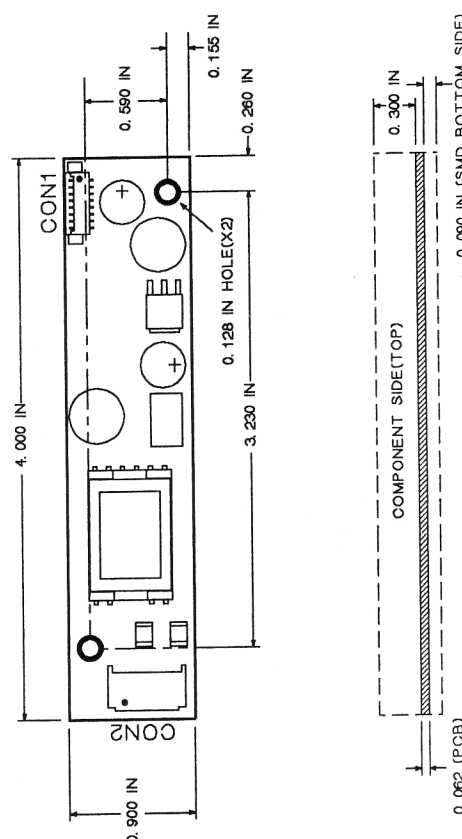
Size (L x W x H) = 4.0 IN x 0.9 IN x 0.452 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

CCFL Output Connector = CON2



INPUT CONNECTOR
CON1
MOLEX 53261-0890

PIN #	FUNCTION
1	+8 TO +18V(PWR)
2	+8 TO +18V(PWR)
3	GND(PWR)
4	GND(PWR)
5	ENABLE
6	VCNTL
7	+5V OUT
8	PWM OUT

OUTPUT CONNECTOR
CON2
JST SM03(4.0)B-BHS-1-TB

PIN #	FUNCTION
1	CCFL COMMON
2	CCFL 1
3	CCFL 2



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MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 20	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)	10	W
Top	Operating Temperature (Still air ambient around Inverter)	0 to +70	DegC
Tstg	Storage Temperature	-20 to +105	DegC

* 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)	8	18	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	400	600	Vrms
Vcntl	Intensity Control Voltage	0	3.3	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 500Vrms, Vcntl = 0V, Ensble = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1400		Vrms
Lout	Lamp Output Current	PWM Duty Cycle @ 100%	6.3	7.7	mArms
Lfreq	Lamp-Current Frequency		62	76	Khz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 6) = +1.65V	95	101	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 6) = +3.3V to 0V	0	100	%
ENoff	Enable Control, unit OFF (Pin 5)			0.7	Vdc
ENon	Enable Control, unit ON (Pin 5)		2.0		Vdc
+5Vout	+5V Reference Out (Pin 7)	10k load to ground	4.6	5.3	Vdc
IVout	Ref Voltage Current Draw (Pin 7)	10k load to ground		10	mAdc
Iin	Input Current Draw	@ 8V		1.20	Adc
Iin	Input Current Draw	@ 12V		0.75	Adc
Iin	Input Current Draw	@ 18V		0.51	Adc
Eff	Electrical Efficiency		85		%