



APPLIED CONCEPTS INC.

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AC8-12-1681

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CCFL INVERTER (For Quad Tube Applications)

04/13/07

GENERAL DESCRIPTION

This AC8-12-1681 is designed to power 4 CCFL's to a total output power of 22.2 watts from a nominal +12V source.

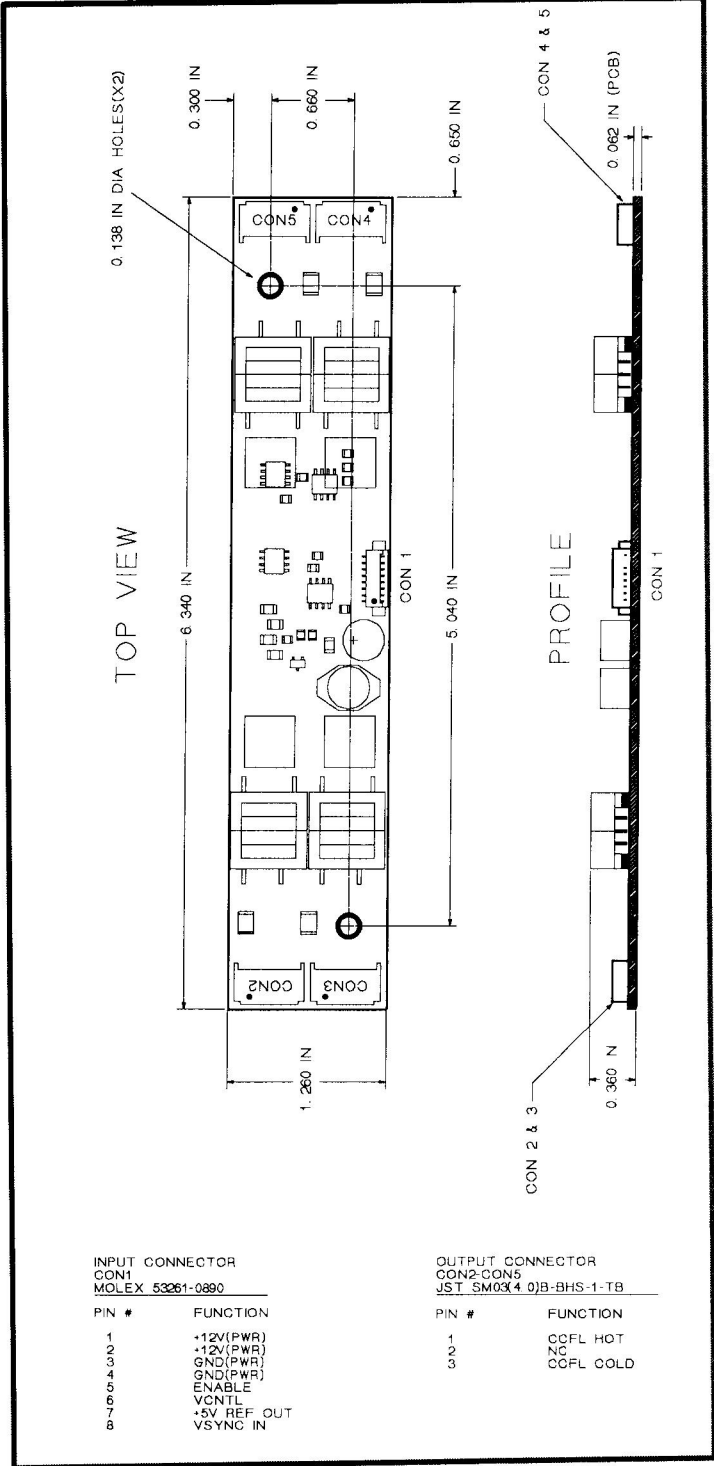
Analog dimming control is accomplished by providing a dc level @ pin 6 of CON1

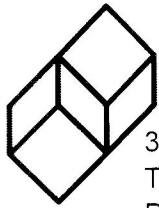
Enable control is accomplished @ pin 5 of CON1. In addition, a +5V reference voltage is available @ pin 7 of CON1 for external use.

All outputs are open and short circuit protected.

MECHANICAL / ENVIRONMENTAL

Weight = 40 grams
 Altitude = 10,000 Ft maximum
 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 & Control Connector = CON1
 CCFL Output Connector(s) = CON2 - CON5





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MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 14	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)	31	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)	10.8	13.2	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	563	938	Vrms
VSYif	Vertical Synchronization Input Frequency	48	62	Hz
Vcntl	Intensity Control Voltage	0.5	4.5	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 750Vrms, Vcntl = +4.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1900		Vrms
Lout	Lamp Output Current	Measured external of the LCD	9.7	11.9	mArms
Lout (EFF)	Effective lamp output current		6.7	8.1	mArms
Lfreq	Lamp-Current Frequency		62	76	Khz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 6) = +2.5V Vsync-In (Pin 8) = 0V Vsync-In (Pin 8) = 60Hz	95 119.8	101 120.2	Hz Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 6) = +0.5V to +4.5V	0	100	%
ENoff	Enable Control, unit OFF	Pin 5		0.7	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	0.7		Vdc
+5Vout	+5V Reference Out	10k load to ground (Pin 7)	4.6	5.25	Vdc
Iin	Input Current Draw			2.38	Adc
Eff	Electrical Efficiency		85		%