

APPLIED CONCEPTS INC.

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AC-1654

PRODUCT DATA SHEET - PAGE 1 OF 2

CCFL INVERTER

(For Dual Tube Applications)

2/26/07

GENERAL DESCRIPTION

This AC-1654 is designed to power 2 CCFL's up to a power level of 11.5 watts from a +12V source.

Enable control is accomplished @ pin 5 of CON1.

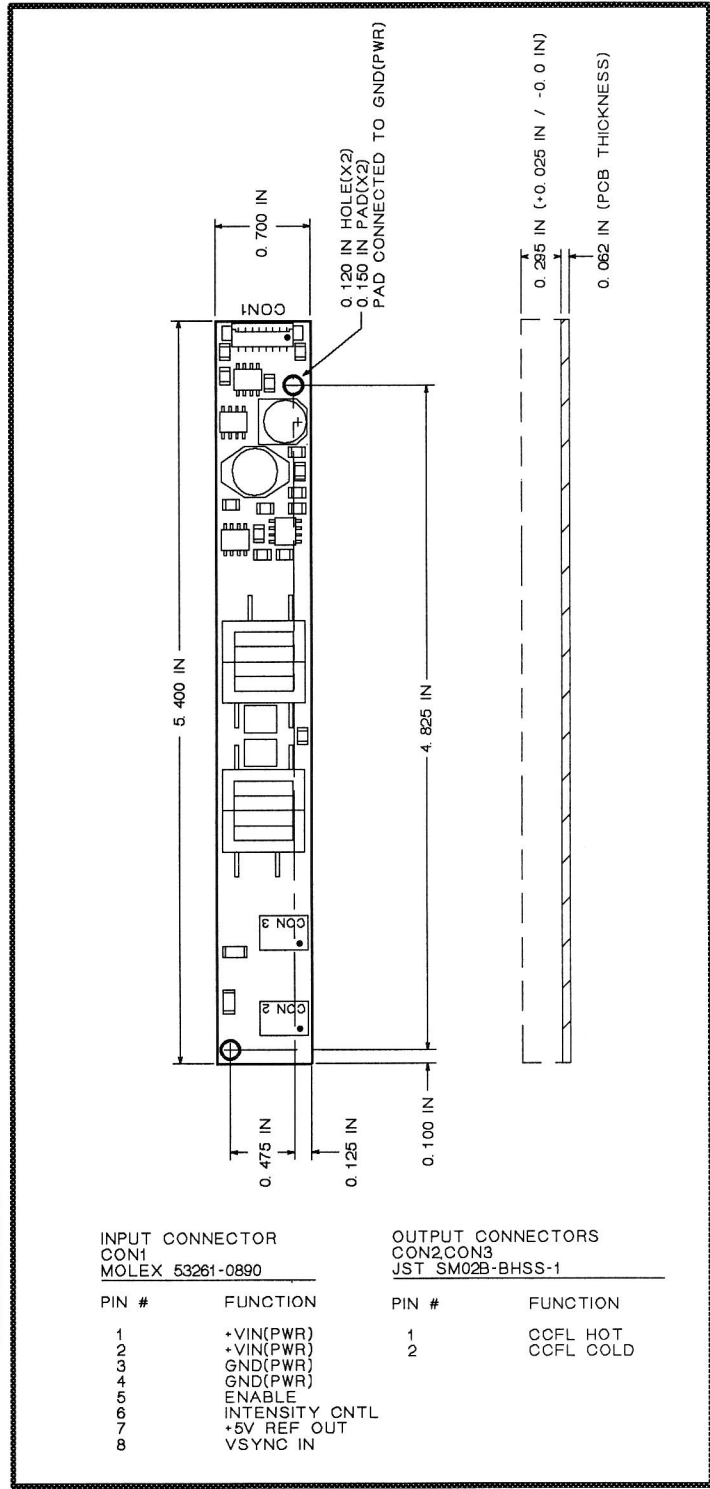
Intensity control (0-100%) is accomplished by the user providing a variable dc level at pin 6 of CON1.

If desired, the pwm dimming frequency of the inverter can be synchronized to the LCD frame rate via pin 8 of CON1.

A +5V reference voltage is available @ pin 7 of CON1 for external use.

This inverter is specifically designed to drive the Sharp 15 inch LGN2A display to a nominal brightness goal of 260 cd/m2.

All outputs are open and short circuit protected.



MECHANICAL / ENVIRONMENTAL

Weight = 21 grams

Altitude = 10,000 Ft maximum

Humidity < 85% non-condensing

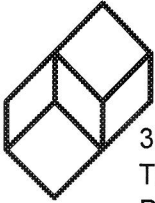
Size (L x W x H) = 5.4 IN x 0.7 IN x 0.357 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X2)

Input Power & Control Connector = CON1

CCFL Output Connector(s) = CON2, CON3



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PRODUCT DATA SHEET - PAGE 2 OF 2

MAXIMUM RATINGS*

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Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 13.5	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)	16.5	W
Top	Operating Temperature (Still air ambient around Inverter)	0 to +70	DegC
Tstg	Storage Temperature	-40 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)	11.4	12.6	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	800	1300	Vrms
VSYif	Vertical Synchronization Input Frequency	48	62	Hz
Vcntl	Intensity Control Voltage	0.5	4.5	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 850 Vrms, Vcntl = +4.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		2200		Vrms
LOavg	Average Lamp Output Current	Measured external of LGN2A	6.0	7.5	mArms
Ieff	Effective Lamp Current	Effective lamp current to achieve 260 cd/m ² per LGN2A spec.	4.25	4.75	mArms
Lfreq	Lamp-Current Frequency		33	41	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) = 0.5 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
VSYlo	Vertical Sync In	Lo Level (pin 8)		1.0	Vdc
VSYhi	Vertical Sync In	Hi Level (pin 8)	4.0		Vdc
+5Vout	+5V Reference Out	10k load to ground (Pin 7)	4.75	5.25	Vdc
Iin	Input Current Draw			1.3	Adc
Eff	Electrical Efficiency		90		%