

APPLIED CONCEPTS INC.

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AC-1653

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CCFL INVERTER

(For Single Tube Applications)

1/18/07

GENERAL DESCRIPTION

The AC-1653 is designed to power 1 CCFL with 5.5mA of output current yielding an output power of 3W.

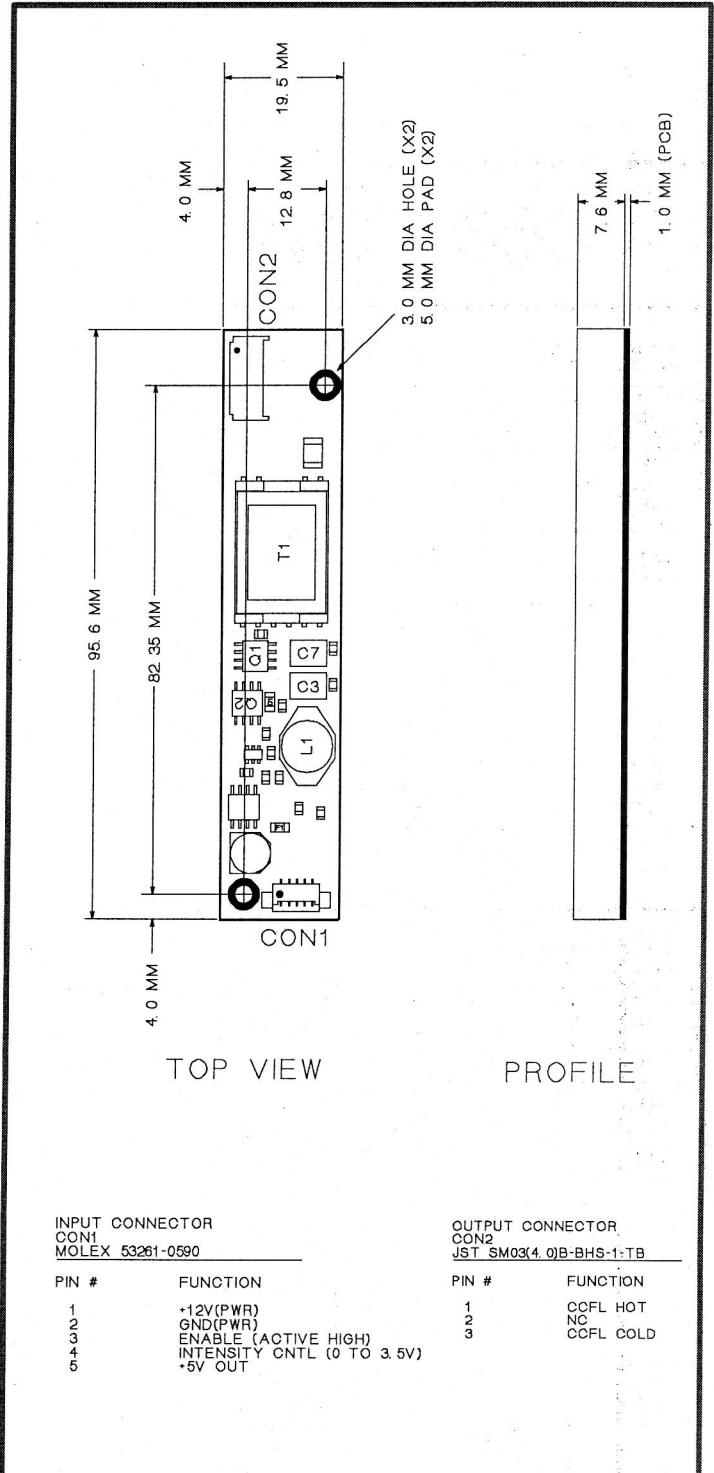
The AC-1653 features dimming control via an analog dc control level presented @ pin 4 of CON1.

Enable control is accomplished @ pin 3 of CON1.

The output is open and short circuit protected.

MECHANICAL / ENVIRONMENTAL

- Weight = 14 grams
- Altitude = 10,000 Ft maximum
- Humidity < 85% non-condensing
- Size (L x W x H) = 95.6 mm x 19.5 mm x 8.6 mm
- PCB thickness = 1.0 mm
- Mounting Holes = 3.0 mm diameter (X2)
- Input Power & Control Connector = CON1
- CCFL Output Connector = CON2





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MAXIMUM RATINGS*

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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)	4.0	W
Top	Operating Temperature (Still air ambient around Inverter)	-30 to +70	DegC
Tstg	Storage Temperature	-30 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	400	650	Vrms
Vcntl	Intensity Control Voltage Range	0	3.5	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Lsv = 530Vrms, Vcntl = +3.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Max	Unit
Lstart	Lamp Starting Voltage		1400		Vrms
Lout	Lamp Output Current		5.0	6.1	mArms
Lfreq	Lamp-Current Frequency		48.1	58.7	Khz
Pfreq	PWM Dimming Frequency		95	101	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 4) = 0V to +3.5V	0	100	%
ENoff	Enable Control	Unit OFF (Pin 3)		0.5	Vdc
ENon	Enable Control	Unit ON (Pin 3)	2.0		Vdc
+5Vout	+5V Reference Out	10K load to ground (PIN 5)	4.6	5.3	Vdc
Iin	Input Current Draw			0.3	Adc
Eff	Electrical Efficiency		90		%