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CCFL INVERTER

(For Multiple Tube Applications)

GENERAL DESCRIPTION

The AC-1492D is designed to power 6 CCFLs to a nominal power level of 28.3 Watts from an input voltage of +17V.

Intensity control is accomplished by the user providing a variable dc level at pin 7 of CON1. A DC reference voltage (+5V) is available at pin 6 of CON1 for external use.

Enable control is accomplished at pin 5 of CON1.

All outputs are open and short circuit protected.

MECHANICAL/ENVIRONMENTAL

Weight = 120 grams

Altitude = 10,000 ft max.

Humidity < 85% non-condensing

Size (L x W x H) = 9.48 IN x 2.55 IN x 0.700 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X6)

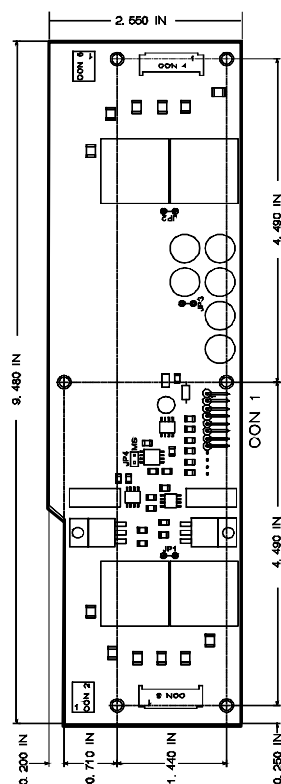
Input Power & Control Connector = CON1

CCFL Output Connectors = CON2, CON3, CON4, CON5

AC-1492D

PRODUCT DATA SHEET

06/19/12



PROFILE = 0.700 IN

INPUT CONNECTOR
CON1
MTSW-112-22-G-S-100-RE

PIN #	FUNCTION
1,2	+VIN
3,4	GND(POWER)
5	ENABLE
6	+5V OUT
7	VCTRL
8	GND(SIGNAL)

OUTPUT CONNECTOR(S)
CON2,CON5
JST SM02B-BHSS-1-TB

PIN #	FUNCTION
1	CCFL HOT
2	CCFL COLD

OUTPUT CONNECTOR(S)
CON3,CON4
JST SM04(9-E2)B-BHS-1-TB

PIN #	FUNCTION
1	CCFL HOT
2	CCFL HOT
3	NC
4	CCFL COLD
5	CCFL COLD

MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 19.0	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)	38.5	W
Top	Operating Temperature (Still air ambient around Inverter)	-20 to +80	°C
Tstg	Storage Temperature	-40 to +105	°C

*Maximum Ratings are those values beyond which damage to the inverter may occur.

RECOMMENDED OPERATING CONDITIONS

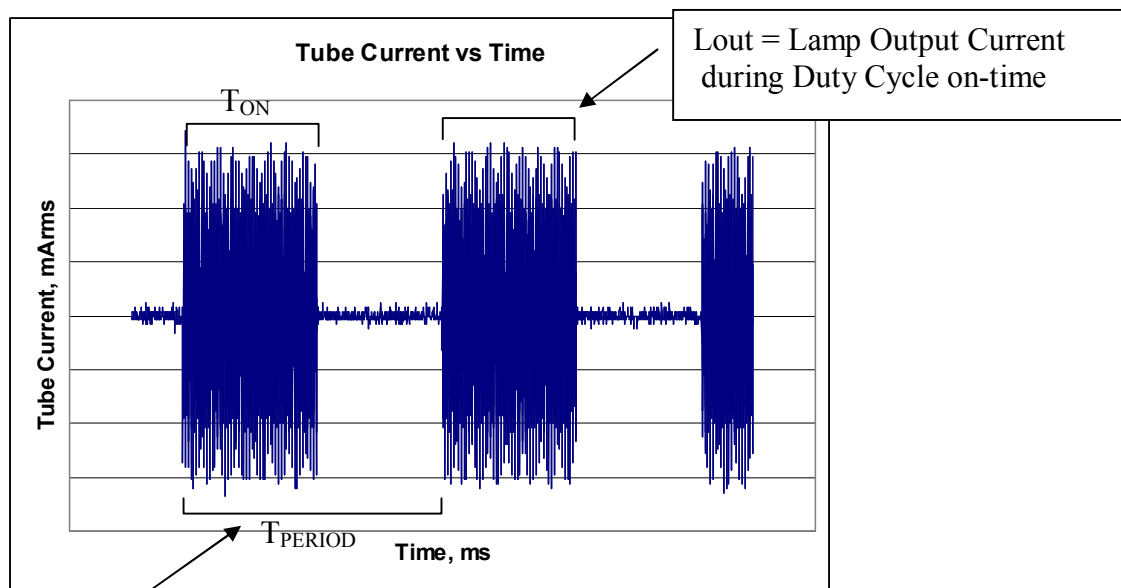
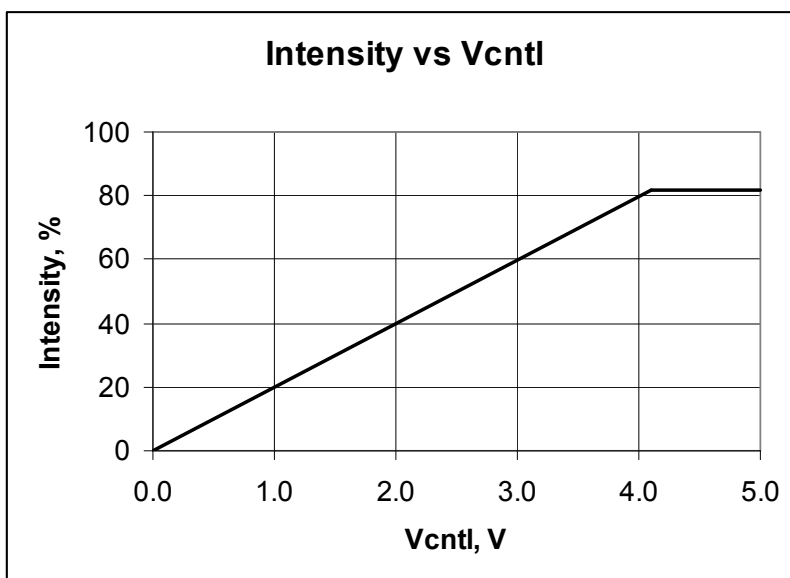
Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	15.3	18.7	Vdc
Lsv	Cold Cathode Fluorescent Lamp Sustaining Voltage	524	640	Vrms
Vcntl	Intensity Control Voltage	0	4.1	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +17.0V, Lsv = 582Vrms, Vcntl = +4.1V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
Lstart	Lamp Starting Voltage	Open Circuit	1900			Vrms
Lout**	Lamp Output Current	During Duty Cycle on Time	8.9	9.9	10.9	mArms
Leff**	Effective Lamp Output Current	Lout x Duty Cycle	7.3	8.1	8.9	mArms
Lfreq	Lamp-Current Frequency		41		49	KHz
Pfreq	PWM Dimming Frequency	Vcntl (Pin 7)= +2.0V	95		101	Hz
Pdc	PWM Duty Cycle Range	Vcntl (Pin 7)= 0V to +4.1V	0		82	%
ENoff	Enable Control, unit OFF (Pin 5)				0.8	Vdc
ENon	Enable Control, unit ON (PIN 5)		2.0			Vdc
+5Vout	+5V Reference Out (Pin 6)	10k load to ground	4.75		5.25	Vdc
Iin_pk	Input Current Draw, Peak	During Duty Cycle on Time		2.25	2.6	Adc
Iin_ave	Input Current Draw, Average	Iin_pk x Duty Cycle		1.85	2.1	Adc
Eff	Electrical Efficiency		90			%

** See explanation on page 3.



$$Leff = Lout \times \text{Duty Cycle}$$

$$\text{Duty Cycle} = T_{ON} / T_{PERIOD}$$