

I-DRIVE, 20.4 WATT LED DRIVER

(Single Channel 170V, 0-120mA)

GENERAL DESCRIPTION

The ACI-E170120-1994 represents the 5th generation of I-Drive technology used for powering LED backlights.

Operating as a true constant current source and capable of driving up to 56 LEDs in series. This driver provides a complete integrated solution that is regulated over an input range of +10V to +15V.

Simple to connect and operate, this driver solution is capable of providing precise control to support dimming applications with a minimum of 3000:1.

This unit features enable and intensity control inputs.

MECHANICAL/ENVIRONMENTAL

Weight = 33.2 grams

Altitude = 35,000 ft max.

Humidity < 95% non-condensing

Size (L x W x H) = 3.25 IN x 2.00 IN x 0.47 IN

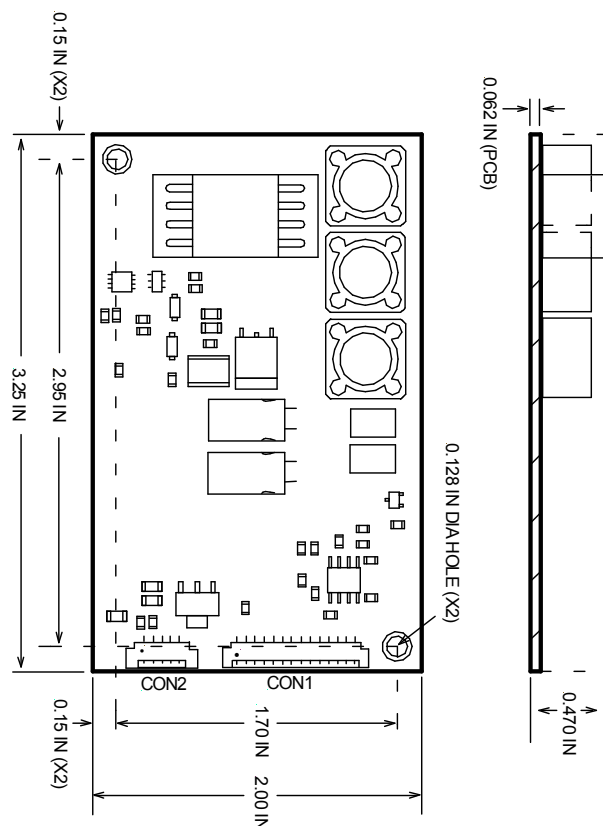
PCB thickness = 0.062 IN

Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connector = CON2

RoHS Compliant



INPUT CONNECTOR

CON1

MOLEX 53261-1471

PIN# FUNCTION

1	+10 to +15V (PWR)
2	+10 to +15V (PWR)
3	+10 to +15V (PWR)
4	+10 to +15V (PWR)
5	GND (PWR)
6	GND (PWR)
7	GND (PWR)
8	GND (PWR)
9	ENABLE
10	ICNTL
11	TBD
12	TBD
13	+5VDC REF OUT
14	GND (SIGNAL)

OUTPUT CONNECTOR

CON2

MOLEX 53261-0571

PIN# FUNCTION

1	+ LED (ANODE)
2	+ LED (ANODE)
3	NC
4	- LED (CATHODE)
5	- LED (CATHODE)

PRODUCT DATA SHEET

06/30/11

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 Control Pin	+/- 10	mAdc
Pin	Input Power (DC Input Voltage x DC Input Current)	26.2	W
Top	Operating Temperature (Still air ambient around Driver)	-30 to +85	°C
Tstg	Storage Temperature	-40 to +105	°C

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

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	10.0	15.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	30	167	Vdc
Icntl	LED Intensity Control Voltage	0.5	4.5	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 167Vdc, Icntl = +4.5V, Enable = +5V, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	175	184	193	Vdc
Iout	Output Current		114	120	126	mAdc
Icntl	Nominal Output Current Adjust Range	Icntl(Pin 10)= +0.5V to +4.5V	0		120	mAdc
ENoff	Enable Control, Unit Off				0.5	Vdc
ENon	Enable Control, Unit ON		2.0			Vdc
+5Vref	+5V Output Reference Voltage	1K Ohm Load to Ground (Pin 13)	4.75	5.0	5.25	Vdc
Iin	Input Current Draw			1.9		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 9) = 0V			0.06	Adc
Eff	Electrical Efficiency		89			%

LED Intensity vs Icntrl

