

I-LITE, 5.7 WATT LED DRIVER

(Common-Cathode, One to Six Channels)

GENERAL DESCRIPTION

The ACI-3186 LED Driver is a true constant current source capable of driving up to 6 parallel channels of series connected LEDs with a forward voltage drop up to 38V (see page 3 for output configurations and recommendations)

This driver provides a complete integrated solution that operates over an input voltage range from +10.8V to +15V.

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

Please refer to Table 1 on page 3, for the maximum output current per channel, based on the number of channels connected.

This unit features enable and intensity control inputs.

MECHANICAL/ENVIRONMENTAL

Weight = 7.2 grams

Altitude = 35,000 ft max.

Humidity < 95% non-condensing

Size (L x W x H) = 2.0 IN x 0.95 IN x 0.285 IN

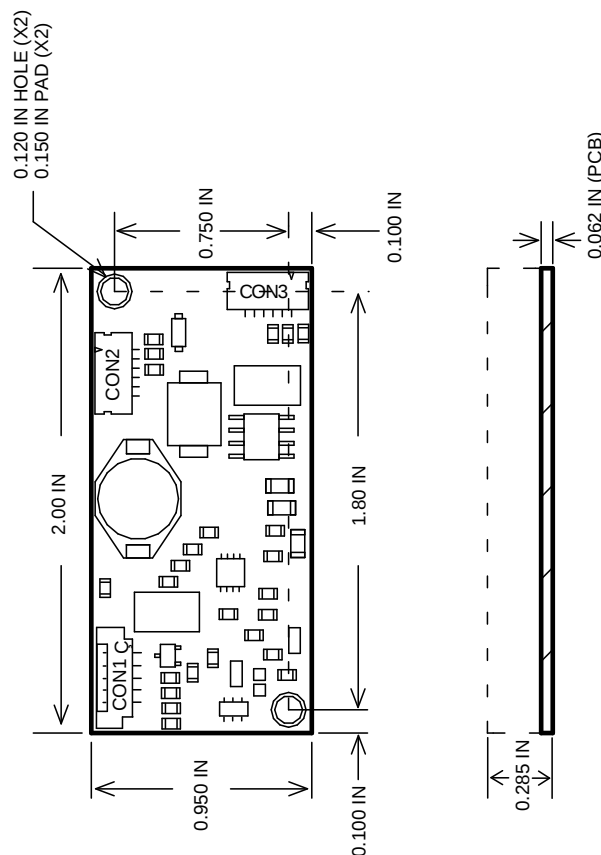
PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connectors = CON2 and CON3

RoHS Compliant



INPUT CONNECTOR
CON1
MOLEX 53261-0571

OUTPUT CONNECTORS
CON2 AND CON3
JST SM06B-SHLS-TF

PIN #	FUNCTION
1	+VIN(PWR)
2	GND(PWR)
3	ENABLE (IN)
4	INTENSITY CNTL (IN)
5	+5.0VREF (OUT)

PIN #	FUNCTION
1	LED ANODE 1 (4)
2	LED ANODE 2 (5)
3	LED ANODE 3 (6)
4	LED CATHODE (COMMON)
5	LED CATHODE (COMMON)
6	LED CATHODE (COMMON)

MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.3 to 18	Vdc
Vip	Voltage applied to any Input Pin (Referenced to Ground)	-0.3 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)	7.3	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 LED driver may occur.

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	10.8	15.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	38	Vdc
Icctl	LED Intensity Control Voltage	0.5	4.5	Vdc

**Vin must be less than the minimum Forward-Drop Voltage (Vf).

ELECTRICAL CHARACTERISTICS

Vin = +12V, Number of Channels = 6, Vf = 38V, Icctl = +4.5V, Enable = +5.0V, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	45	50	55	Vdc
Iout	Output Current per Channel		22.5	25	27.5	mAdc
Iadj	Nominal output current adjust range Per Channel	Icctl (Pin4) <= 0.5V	0			mAdc
		Icctl (Pin4) >= 5.0V			25	mAdc
ENoff	Enable Control, Unit Off	Enable (Pin 3)			0.5	Vdc
ENon	Enable Control, Unit ON	Enable (Pin 3)	2.0			Vdc
+5.0Vref	+5.0V Output Reference Voltage	1K Ohm Load to Ground (Pin 5)	4.75	5.0	5.25	Vdc
Iin	Input Current Draw	Vf = 38V		0.53		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 3) = 0V		0.001	0.06	Adc
Eff	Electrical Efficiency			90		%

Number of Channels Connected	1	2	3	4	5	6
Maximum Output Current per Channel (mA)	150	75	50	37.5	30	25

Table 1 - Maximum Output Current per Channel, based on the number of channels connected

