

## PRODUCT DATA SHEET

04/19/16

## I-LITE, 4.3 WATT LED DRIVER

(36V, 6 Channels <sup>1</sup>, 0 – 20mA per Channel)

### GENERAL DESCRIPTION

The ACI-A036020-2684 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 36V.

This driver provides a complete integrated solution that operates over an input voltage range from +10V to +18V.

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

Simple to connect and operate, this driver 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 = 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

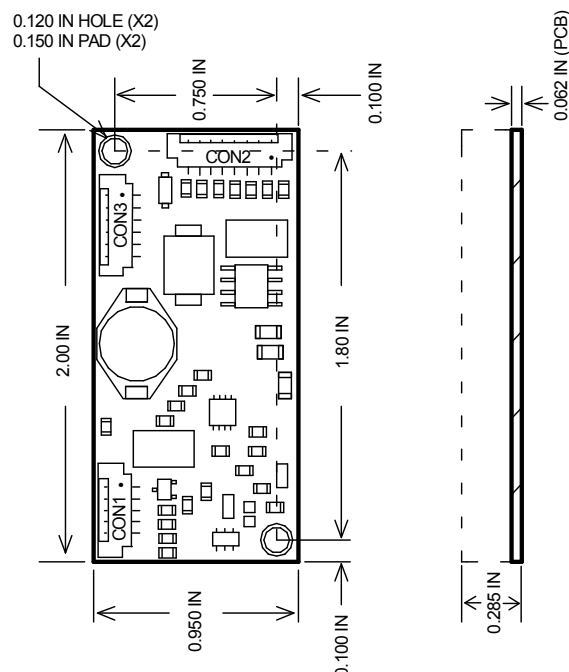
PCB thickness = 0.062 IN

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

PIN # FUNCTION

- |   |                     |
|---|---------------------|
| 1 | +VIN(PWR)           |
| 2 | GND(PWR)            |
| 3 | ENABLE (IN)         |
| 4 | INTENSITY CNTL (IN) |
| 5 | +5V REF (OUT)       |

OUTPUT CONNECTOR  
CON2  
MOLEX 53261-0871

PIN # FUNCTION

- |   |                    |
|---|--------------------|
| 1 | LED CATHODE #1     |
| 2 | LED CATHODE #2     |
| 3 | LED CATHODE #3     |
| 4 | LED CATHODE #4     |
| 5 | LED CATHODE #5     |
| 6 | LED CATHODE #6     |
| 7 | NC                 |
| 8 | LED ANODE (COMMON) |

OUTPUT CONNECTOR  
CON3  
MOLEX 53261-0671

PIN # FUNCTION

- |   |                    |
|---|--------------------|
| 1 | LED ANODE (COMMON) |
| 2 | LED ANODE (COMMON) |
| 3 | LED ANODE (COMMON) |
| 4 | LED ANODE (COMMON) |
| 5 | LED ANODE (COMMON) |
| 6 | LED ANODE (COMMON) |

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### MAXIMUM RATINGS\*

| Symbol | Parameter                                               | Value       | Unit |
|--------|---------------------------------------------------------|-------------|------|
| Vin    | Supply Voltage (Referenced to Ground)                   | -0.3 to 19  | 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)       | 5.7         | 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)                | 10.0      | 18.0 | Vdc  |
| Vf     | Series Connected Cumulative LED Forward-Drop Voltage | **Vin + 1 | 36   | Vdc  |
| Icctl  | LED Intensity Control Voltage                        | 0.5       | 4.5  | Vdc  |

### ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 36V, Number of Channels = 6, Icctl = +4.5V, Enable = +5V, unless otherwise specified.

| Symbol | Parameter                             | Test Conditions               | Min  | Nom   | Max  | Unit |
|--------|---------------------------------------|-------------------------------|------|-------|------|------|
| OCV    | Open Circuit Voltage                  | No Load                       | 40   | 45    | 50   | Vdc  |
| Iout   | Output Current per Channel            |                               | 18   | 20    | 22   | mAdc |
| Iadj   | Brightness Intensity Adjustment Range | Icctl (Pin4) ≤ 0.5V           | 0    |       |      | %    |
|        |                                       | Icctl (Pin4) ≥ 4.5V           |      |       | 20   | %    |
| ENoff  | Enable Control, Unit Off              | Enable (Pin 3)                |      |       | 0.5  | Vdc  |
| ENon   | Enable Control, Unit ON               | Enable (Pin 3)                | 2.0  |       |      | Vdc  |
| +5Vref | +5V Output Reference Voltage          | 1K Ohm Load to Ground (Pin 5) | 4.75 | 5.0   | 5.25 | Vdc  |
| Iin    | Input Current Draw                    |                               |      | 0.41  |      | Adc  |
| Iind   | Input Current Draw (Disabled)         | Enable (Pin 3) = 0V           |      | 0.001 | 0.06 | Adc  |
| Eff    | Electrical Efficiency                 |                               |      | 87    |      | %    |

| Number of Channels Connected            | 1   | 2  | 3  | 4  | 5  | 6  |
|-----------------------------------------|-----|----|----|----|----|----|
| Maximum Output Current per Channel (mA) | 120 | 60 | 40 | 30 | 24 | 20 |

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

BRIGHTNESS CURVE

