

I-LITE, 4.0 WATT LED DRIVER

(Common-Cathode, One to Six Channels¹)

GENERAL DESCRIPTION

The ACI-A022030-2007 is designed to drive up to 6 parallel channels of series connected LEDs.

The number of channels and current per channel are configurable per Table 1 on Page 3, by setting a four-position switch located on the driver, enabling the driver to support a wide range of displays.

Operating as a true constant current source, the driver provides a complete integrated solution that operates over an input voltage range from +4.5V to +9.0V.

This unit features enable and intensity control inputs. Additional support documentation includes:

1. Application Note AN-OP1
2. I-LITE LED DRIVER APPLICATION NOTE

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

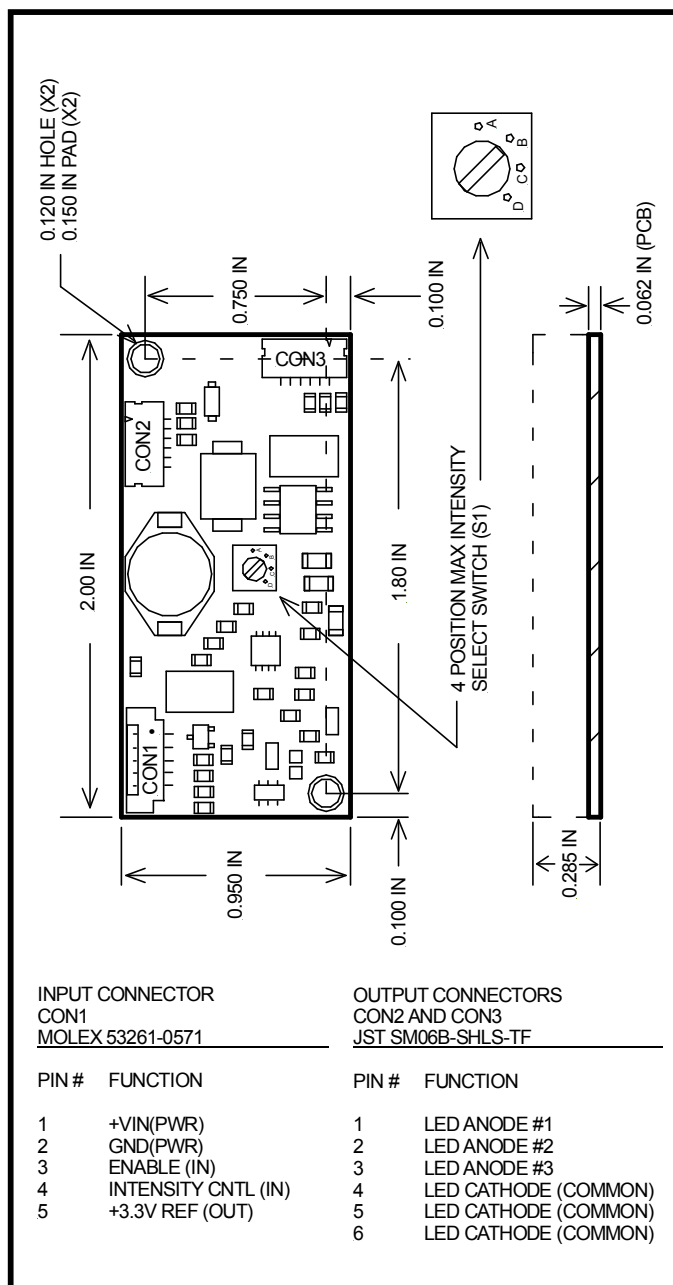
PCB thickness = 0.062 IN

Mounting Holes = 0.120 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connectors = CON2 and CON3

RoHS Compliant



¹ When using less than the total number of channels available, refer to I-Lite Application Note.

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MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.3 to 12	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)	5.0	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)	4.5	9.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	22	Vdc
Icctl	LED Intensity Control Voltage	0.4	4.6	Vdc

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

ELECTRICAL CHARACTERISTICS

Vin = +4.5V, Vf = 22V per channel, # of channels = 6, Icctl = +4.6V, Enable = +5V, S1 = A, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	23.4	26	28.6	Vdc
Iout-A	Output Current per Channel, Setting A	Switch S1 = A	28.5	30	31.5	mADC
Iout-B	Output Current per Channel, Setting B	Switch S1 = B	***	***	***	mADC
Iout-C	Output Current per Channel, Setting C	Switch S1 = C	***	***	***	mADC
Iout-D	Output Current per Channel, Setting D	Switch S1 = D	***	***	***	mADC
Icctl	Nominal Output Current per Channel Adjustable Range	Icctl (Pin 4) = +0.4V to +4.6V	0		30	mADC
Z_Icctl	Icctl Input Impedance		150K			Ohms
Z_Enable	Enable Input Impedance		150K			Ohms
ENoff	Enable Control, Unit Off	Enable (Pin 3)			0.5	Vdc
ENon	Enable Control, Unit ON	Enable (Pin 3)	2.0			Vdc
+3.3Vref	+3.3V Output Reference Voltage	1K Ohm Load to Ground (Pin 5)	3.13	3.3	3.47	Vdc
Iin	Input Current Draw			0.98		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 3) = 0V		0.001	0.06	Adc
Eff	Electrical Efficiency			90		%

***Switch position reserved for future use.

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Possible Configurations

Switch Setting (S1)	Number of LED Channels Connected					
	1	2	3	4	5	6
	Iout/ch (mA)	Iout/ch (mA)	Iout/ch (mA)	Iout/ch (mA)	Iout/ch (mA)	Iout/ch (mA)
A	180	90	60	45	36	30
B	Switch position reserved for future use.					
C	Switch position reserved for future use.					
D	Switch position reserved for future use.					

TABLE1. – Output Current per Channel, based on Switch (S1) Setting and Number of Channels Connected.

