

ACI-3045

PRODUCT DATA SHEET

03/19/20

I-DRIVE 5, 20.8 WATT LED DRIVER (Four Channel, 65V, 0-80mA per Channel)

GENERAL DESCRIPTION

The ACI-3045 represents the 5th generation of I-Drive technology used for powering LED backlights.

This driver is part of a dual driver solution used to power the **AUO G190ETN01.6 19"** display. The ACI-3045 is the 'Slave' unit, and requires the +5V reference voltage in from the ACI-3044 which is shown in the connection diagram on page 4.

Operating as a true constant current source and capable of driving up to 4 parallel banks of series connected LEDs with a forward voltage drop up to 65V. This driver is one part of two in a complete integrated solution that is regulated over an input range of +10V to 18V.

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, as well as a +5V reference voltage in to be provided by the ACI-3044.

MECHANICAL/ENVIRONMENTAL

Weight = 35.7 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

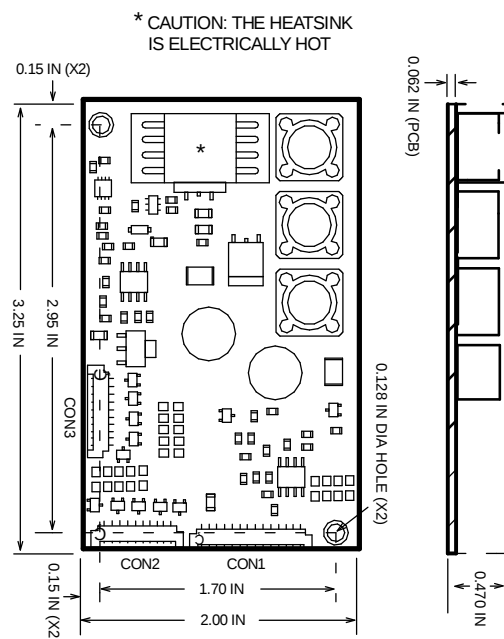
PCB thickness = 0.062 IN

Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connectors = CON2

RoHS Compliant



INPUT CONNECTOR
CON1
MOLEX 53261-1471

PIN#	FUNCTION
1	+10 to +18V (PWR)
2	+10 to +18V (PWR)
3	+10 to +18V (PWR)
4	+10 to +18V (PWR)
5	GND (PWR)
6	GND (PWR)
7	GND (PWR)
8	GND (PWR)
9	ENABLE
10	ICNTL
11	TBD
12	TBD
13	+5VDC REF IN
14	GND (SIGNAL)

OUTPUT CONNECTOR
CON2
MOLEX 53261-1071

PIN#	FUNCTION
1	+ LED (ANODE)
2	+ LED (ANODE)
3	NC
4	NC
5	NC
6	- LED (CATHODE1) Master*
7	- LED (CATHODE2)
8	- LED (CATHODE3)
9	- LED (CATHODE4)
10	NC

*The Master Channel must always be used.

OUTPUT CONNECTOR
CON3
MOLEX 53261-1071

NOT USED

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)	27.6	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	18.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	65	Vdc
Icntl	LED Intensity Control Voltage	0.10	4.92	Vdc

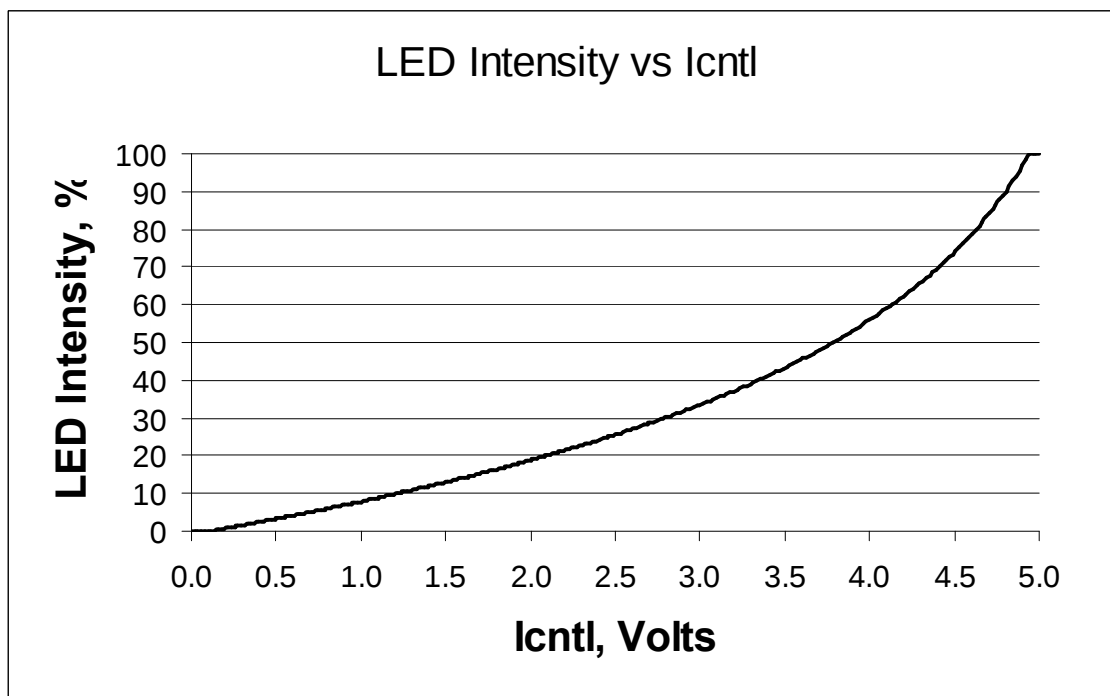
**Vin must be less than the minimum Forward-Drop Voltage (Vf).

ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 65V per channel, # of channels = 4, Icntl = +4.92V, Enable = +5V, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	75	80	85	Vdc
Iout	Output Current per Channel		76	80	84	mAdc
Iadj	Nominal Output Current Adjust Range	Icntl(Pin 10) <= 0.1V	0			mAdc
		Icntl(Pin 10) >=4.92V			80	
ENoff	Enable Control, Unit Off				0.5	Vdc
Enon	Enable Control, Unit ON		2.0			Vdc
+5Vref	+5V Input Reference Voltage		4.75	5.0	5.25	Vdc
Iin	Input Current Draw			2.0		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 9) = 0V			0.06	Adc
Eff	Electrical Efficiency			87		%

BRIGHTNESS CURVE



CONNECTION DIAGRAM

