

ACI-2496

PRODUCT DATA SHEET

09/04/14

I-DRIVE, 16.9 WATT LED DRIVER (Four Channel 52V, 81.25mA)

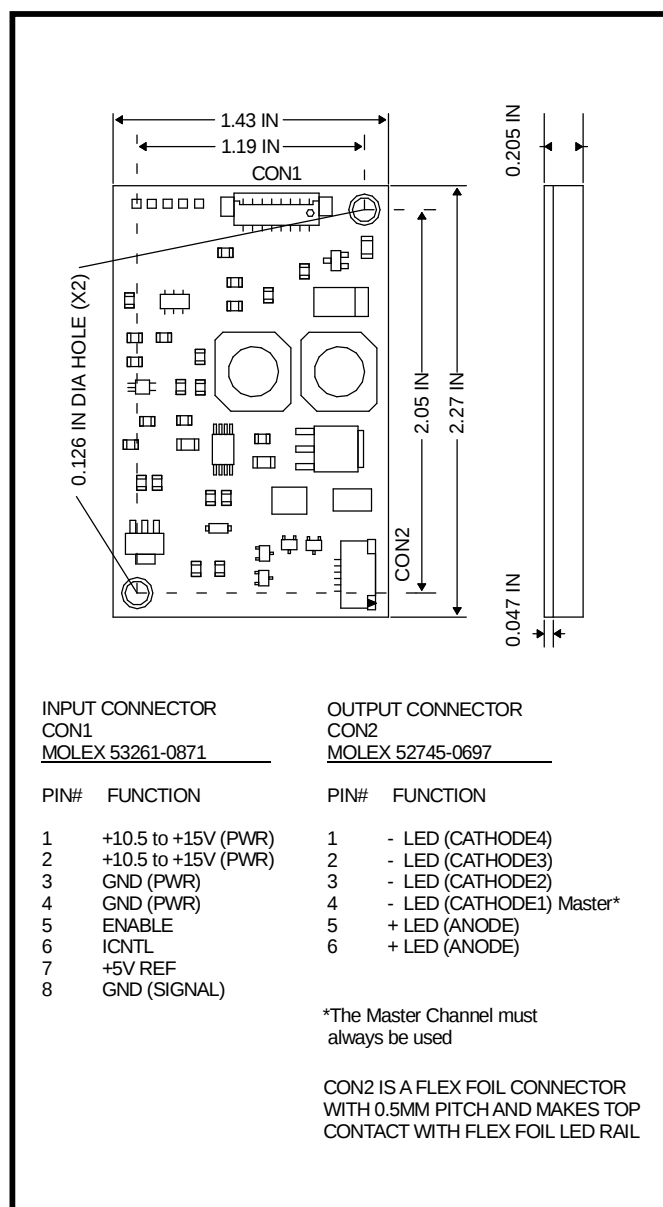
GENERAL DESCRIPTION

The ACI-2496 represents the latest generation of I-Drive technology used for powering LED backlights.

Operating as a true constant current source, this driver provides a complete integrated solution that is regulated over an input range of +10.5V to +15V.

Simple to connect and operate, this driver solution is capable of providing precise control to support dimming applications with a minimum of 3,000:1.

This unit features enable and intensity control inputs.



MECHANICAL/ENVIRONMENTAL

Weight = 10 grams

Altitude = 35,000 ft max.

Humidity < 95% non-condensing

Size (L x W x H) = 2.27 IN x 1.43 IN x 0.205 IN

PCB thickness = 0.047 IN

Mounting Holes = 0.126 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connector = CON2

RoHS Compliant

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)	20.5	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)	10.5	15.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	52	Vdc
Icntl	LED Intensity Control Voltage	0.25	4.75	Vdc

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

ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 52Vdc (4 channels), Icntl = +4.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	52	58	64	Vdc
Iout	Output Current per channel		77.25	81.25	85.25	mAdc
Icntl	Nominal Output Current Adjust Range	Icntl(Pin 6) = +0.25V to +4.75V	0		81.25	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 7)	4.75	5.0	5.25	Vdc
Iin	Input Current Draw			1.55		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 5) = 0V			0.06	Adc
Eff	Electrical Efficiency		91			%

LED Intensity vs I_{cntl}

