

I-DRIVE 5, 33.6 WATT LED DRIVER (70V, Four Channel, 0-120mA per Channel)

GENERAL DESCRIPTION

The ACI-2807 represents the 5th generation of I-Drive technology used for powering LED backlights.

Operating as a true constant current source and capable of driving up to 4 banks of series connected LEDs with a forward voltage drop up to 70V. This driver provides a complete integrated solution that is regulated over an input voltage range from +23V to +33V.

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.

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 0.48 IN

PCB thickness = 0.062 IN

Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connectors = CON2 and CON3

Specified Components secured with 3M DP190 Gray Epoxy (X4)

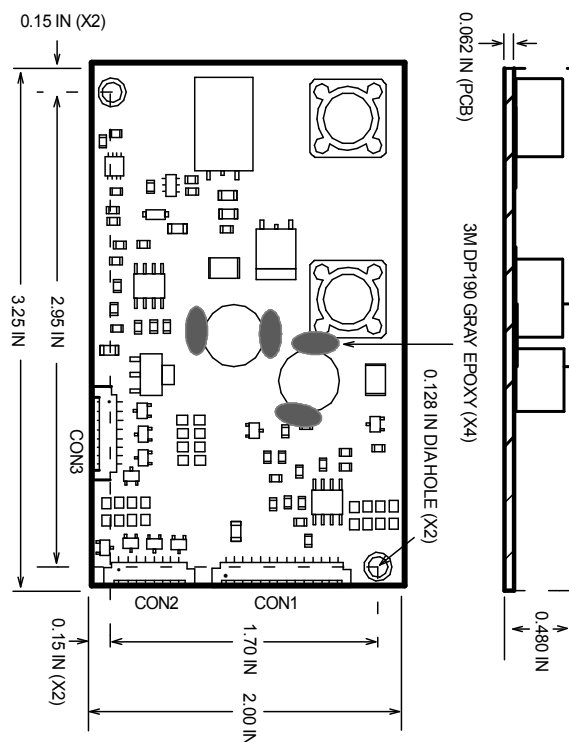
Entire Assembly Conformally Coated with Humiseal 1B73

RoHS Compliant

ACI-2807

PRODUCT DATA SHEET

01/05/17



INPUT CONNECTOR
CON1
MOLEX 53261-1471

PIN# FUNCTION

1	+23 to +33V (PWR)
2	+23 to +33V (PWR)
3	+23 to +33V (PWR)
4	+23 to +33V (PWR)
5	GND (PWR)
6	GND (PWR)
7	GND (PWR)
8	GND (PWR)
9	ENABLE
10	ICNTL
11	TBD
12	TBD
13	+5VDC REF OUT
14	GND (SIGNAL)

OUTPUT CONNECTOR
CON2
MOLEX 53261-0871

PIN# FUNCTION

1	+ LED (ANODE)
2	+ LED (ANODE)
3	NC
4	NC
5	- LED (CATHODE 1)
6	- LED (CATHODE 2)
7	NC
8	NC

OUTPUT CONNECTOR
CON3
MOLEX 53261-0871

PIN# FUNCTION

1	+ LED (ANODE)
2	+ LED (ANODE)
3	NC
4	NC
5	- LED (CATHODE 3)
6	- LED (CATHODE 4)
7	NC
8	NC

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MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 35	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)	41	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

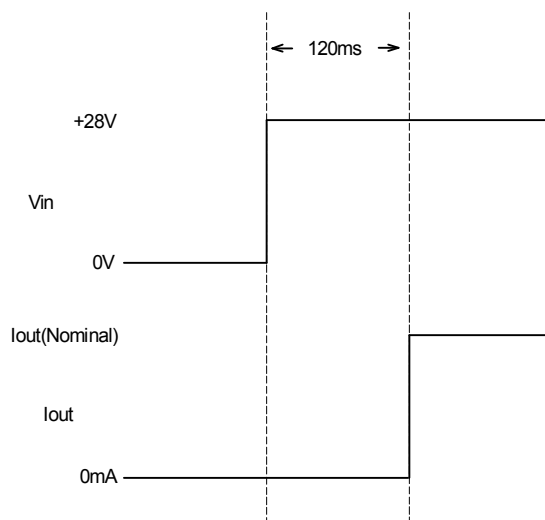
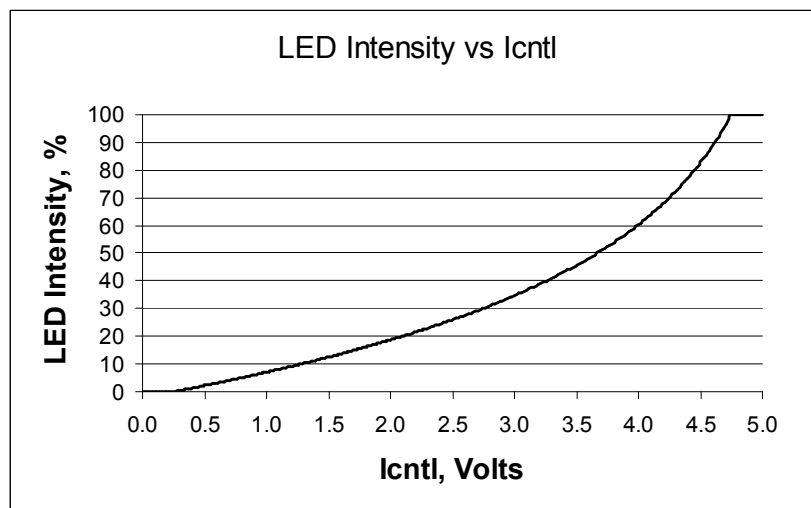
Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	23	33	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	70	Vdc
Icctl	LED Intensity Control Voltage	0.25	4.75	Vdc

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

ELECTRICAL CHARACTERISTICS

Vin = +28V, Vf = 70V per channel, # of channels = 4, Icctl = +4.75V, 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		114	120	126	mAdc
Iadj	Nominal Output Current Adjust Range Per Channel	Icctl(Pin 10) <= 0.25V	0			mAdc
		Icctl(Pin 10) >= 4.75V			120	
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 13)	4.75	5.0	5.25	Vdc
Iin	Input Current Draw			1.3		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 9) = 0V			0.06	Adc
tr	Recovery Time			120		ms
Eff	Electrical Efficiency			90		%



TIMING DIAGRAM – Recovery Time from the time +28V V_{in} is applied to the input of the LED Driver to the time nominal output current is achieved.