

I-DRIVE, 15 WATT LED DRIVER

(Single channel 85V, 0-175mA)

3/17/09

GENERAL DESCRIPTION

The ACI-C085175-1840 represents the 3rd generation of I-Drive technology used for powering LED backlights.

Operating as a true constant current source and capable of driving up to 40 LED's in series. The driver provides a complete integrated solution that is regulated over an input voltage range of +8V to +18V.

Simple to connect and operate, the driver solution is capable of providing precise control to support dimming applications with a minimum of 3000:1.

This unit feature's enable and intensity control inputs.

MECHANICAL / ENVIRONMENTAL

Weight = 20.5 grams

Altitude = 35,000 Ft maximum

Humidity < 95% non-condensing

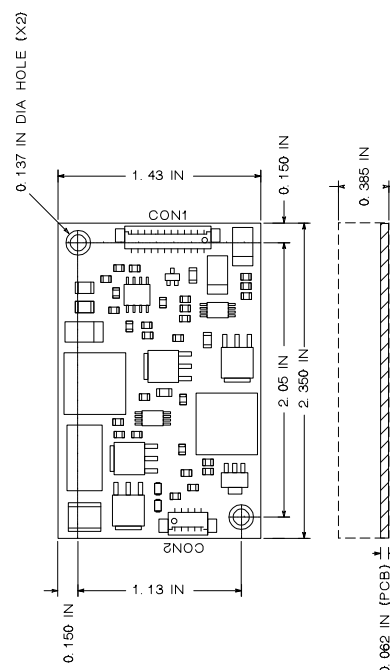
Size (L x W x H) = 2.35 IN x 1.43IN x 0.385 IN

PCB thickness = 0.062 IN

Mounting holes = 0.137 IN diameter (X2)

Input power & control connector = CON1

LED output connector(s) = CON2



INPUT CONNECTOR
CON1
MOLEX 53261-1271

PIN #	FUNCTION
1	+8-18V (PWR)
2	+8-18V (PWR)
3	+8-18V (PWR)
4	GND
5	GND
6	GND
7	ENABLE
8	ICNT1
9	TBD
10	TBD
11	TBD
12	+5VREF-OUT

OUTPUT CONNECTOR(S)
CON2, CON3
MOLEX 53261-0571

PIN #	FUNCTION
1	+LED (ANODE)
2	+LED (ANODE)
3	NC
4	-LED (CATHODE)
5	-LED (CATHODE)

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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)	19	Watts
Top	Operating temperature (Still air ambient around inverter)	-30 to +85	Deg-C
Tstg	Storage Temperature	-40 to +105	Deg-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)	8.0	18.0	Vdc
Vf	Series connected cumulative LED forward-drop voltage	36	80	Vdc
Icntl	LED intensity control voltage	0.5	4.5	Vdc

ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 68Vdc, Icntl = +4.5V, Enable = +5V unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
OCV	Open circuit voltage	No load	133	140	147	Vdc
Iout	Output current		165	175	185	madc
Iadj	Nominal output current adjust range	Icntl (Pin 8) = +0.5V to +4.5V	0		175	madc
ENoff	Enable control, unit OFF				0.5	Vdc
ENon	Enable control, unit ON		2.0			Vdc
+5Vref	+5 volt output reference voltage	1k load to ground (Pin 12)	4.75	5.0	5.25	Vdc
Iin	Input current draw			1.16		Adc
Iind	Input current draw (Disabled)	Enable (Pin 7) = 0V			0.06	Adc
Eff	Electrical Efficiency			85		%

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