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ACI-B035400-2600

PRODUCT DATA SHEET

05/05/15

I-DRIVE 2, 14 WATT LED DRIVER

(35V, 4 Channels ¹, 0-100mA per Channel)

GENERAL DESCRIPTION

The ACI-B035400-2600 operates as a true constant current source and is capable of driving up to 4 banks of series connected LEDs with a forward voltage drop up to 35V. This driver provides a complete integrated solution that is regulated over an input voltage range from +10 to +15VDC.

¹ Please refer to Table 1 on page 3, for the maximum output current per channel, based on the number of channels connected.

Simple to connect and operate, this driver solution is capable of providing precise control to support wide dimming applications.

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) = 2.28 IN x 1.43 IN x 0.220 IN

Size (L x W x H) = 57.9mm x 36.3mm x 5.59mm

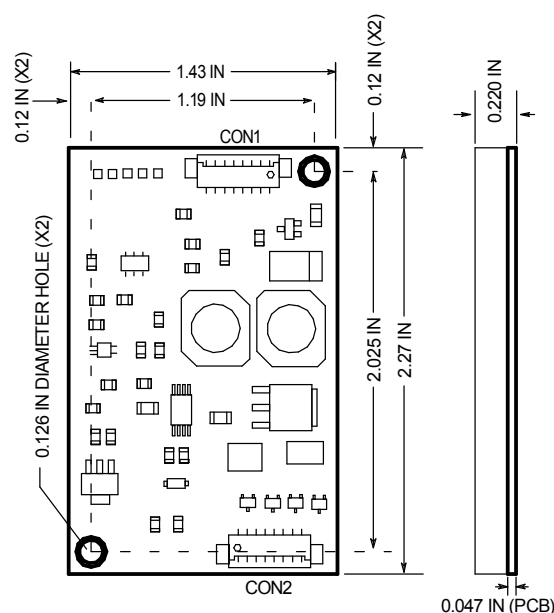
PCB thickness = 0.047 IN

Mounting Holes = 0.126 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connector = CON2

RoHS Compliant



INPUT CONNECTOR
CON1
MOLEX 53261-0871

OUTPUT CONNECTOR
CON2
MOLEX 53261-0871

PIN#	FUNCTION
1	+10 to +15V
2	+10 to +15V
3	GND (PWR)
4	GND (PWR)
5	ENABLE
6	ICNTL / PWM
7	+5V REF OUT
8	GND (SIGNAL)

PIN#	FUNCTION
1	+ LED (ANODE)
2	+ LED (ANODE)
3	+ LED (ANODE)
4	+ LED (ANODE)
5	- LED (CATHODE 1) Master*
6	- LED (CATHODE 2)
7	- LED (CATHODE 3)
8	- LED (CATHODE 4)

*The Master Channel must always be used

MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 18	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)	18.0	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 driver may occur.

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
Vin	Supply Voltage (Referenced to Ground)	10.0	15.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	35	Vdc
Icntl	LED Intensity Control Voltage	0.25	4.75	Vdc
PWMcntl	Intensity Control PWM Duty-Cycle Range (User Supplied Input)	0	100	%
PWMfreq	Intensity Control PWM Frequency Range (User Supplied Input)	100	1000	Hz

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

ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 35V per channel, # of channels = 4, Icntl = +4.75V, Enable = +5V, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	40	45	50	Vdc
Iout	Output Current per Channel		95	100	105	mAdc
Iadj	Nominal Output Current Adjust Range Per Channel	Icntl(Pin 6) ≤ +0.25V or PWMcntl(Pin 6) = 0%	0			mAdc
		Icntl(Pin 6) ≥ +4.75V or PWMcntl(Pin 6) = 100%			100	mAdc
PWMhi	PWM High Signal Level (V _{IH})		4.75			Vdc
PWMlo	PWM Low Signal Level (V _{IL})				0.25	Vdc
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			1.3		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 5) = 0V			0.06	Adc
Eff	Electrical Efficiency			89		%

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Number of Channels Connected	1	2	3	4
Maximum Output Current per Channel (mA)	400	200	133.3	100

Table 1 - Maximum Output Current per Channel, based on the number of channels connected

Pin 5 of CON2 is the Master Channel and must always be used.

BRIGHTNESS CURVE

