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ACI-2667

PRODUCT DATA SHEET

06/16/15

I-DRIVE 6, 42.0 WATT LED DRIVER

Dual Mode, 100V, Four Channels
2.4 - 14mA per Channel (Low Mode)
14 - 105mA per Channel (High Mode)

GENERAL DESCRIPTION

The ACI-2667 represents the 6th generation of I-Drive technology used for powering LED backlights.

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 100V. This driver provides a complete integrated solution that is regulated over an input voltage range from +20V to +28V DC.

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 dual mode, enable and intensity control inputs.

MECHANICAL/ENVIRONMENTAL

Weight = 50.7 grams

Altitude = 35,000 ft max.

Humidity < 95% non-condensing

Size (L x W x H) = 5.00 IN x 2.00 IN x 0.540 IN

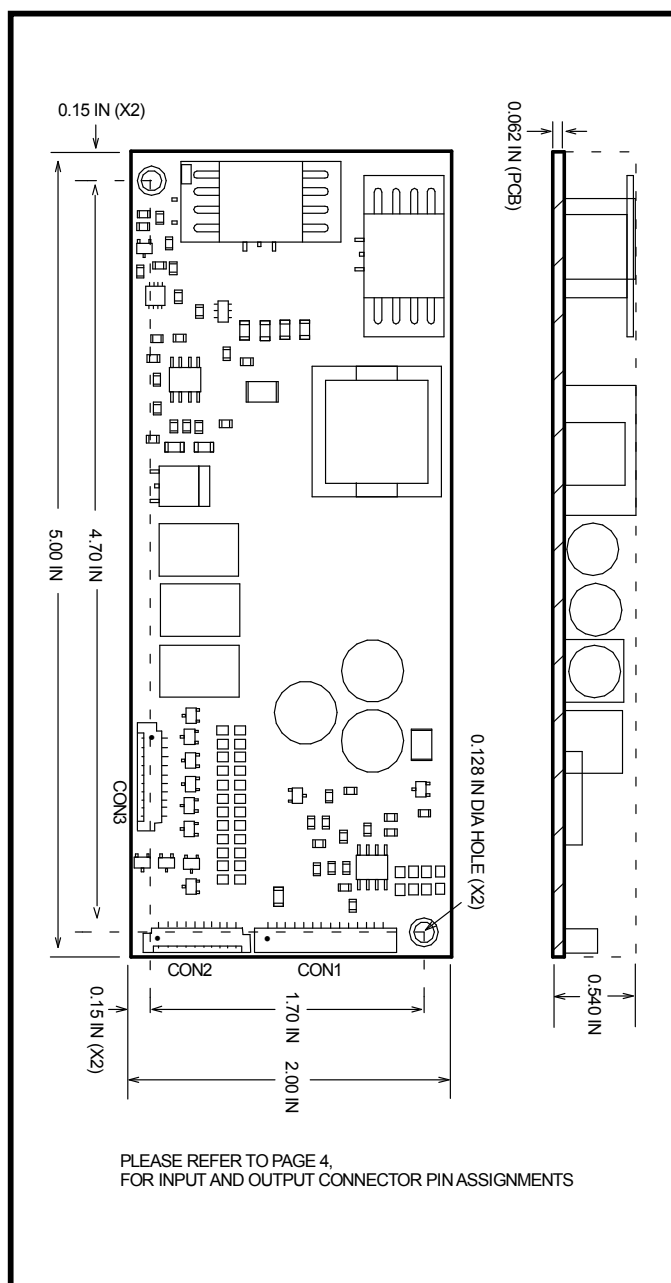
PCB thickness = 0.062 IN

Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connector = CON2

RoHS Compliant



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MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
Vin	Supply Voltage (Referenced to Ground)	-0.7 to 30	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)	53	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)	20.0	28.0	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	100	Vdc
Icntl	LED Intensity Control Voltage	0.1	3.2	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 = +24.0V, Vf = 100V per channel, # of channels = 4, Icntl = +3.2V, Enable = +5V, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
OCV	Open Circuit Voltage	No Load	105	110	115	Vdc
PWMhi	PWM High Signal Level (V _{IH})		3.2			Vdc
PWMlo	PWM Low Signal Level (V _{IL})				0.1	Vdc
Ms	Mode Select, Hi Mode	Pin 11	2.0			Vdc
Ms	Mode Select, Low Mode	Pin 11			0.5	Vdc
ENoff	Enable Control, Unit Off	Pin 9			0.5	Vdc
ENon	Enable Control, Unit ON	Pin 9	2.0			Vdc
+5Vref	+5V Output Reference Voltage	1K Ohm Load to Ground (Pin 13)	4.75	5.0	5.25	Vdc
Iind	Input Current Draw (Disabled)	Enable (Pin 9) = 0V			0.06	Adc
Eff	Electrical Efficiency			92		%

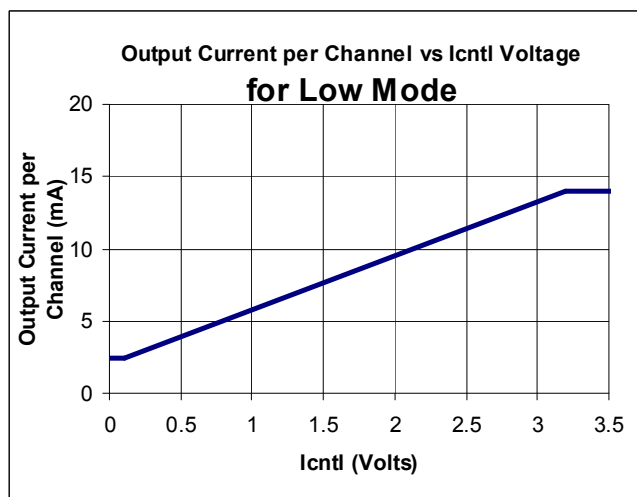
Electricals continued on page 3.

ELECTRICAL CHARACTERISTICS (Part 2 of 2)

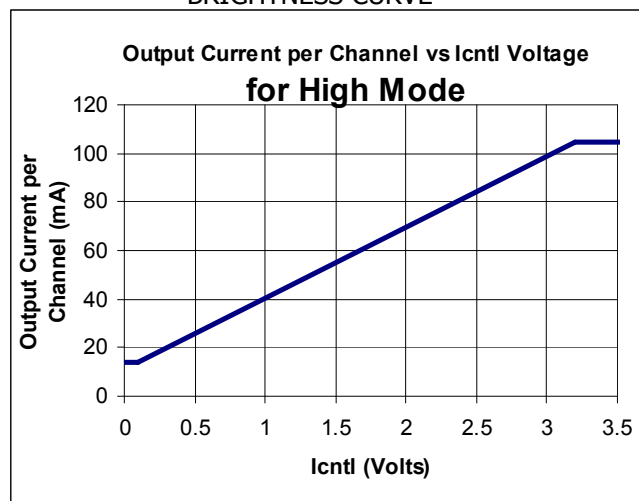
Vin = +24.0V, Vf = 100V per channel, # of channels = 4, Icntl = +3.2V, Enable = +5V, unless otherwise specified.

Symbol	Parameter	Test Conditions	Min	Nom	Max	Unit
Hi Mode, Mode Select Ms (Pin 11) = 5V						
Iout	Output Current per Channel		100	105	110	mAdc
Iadj	Nominal Output Current Adjustment Range per Channel	Icntl(Pin 10) ≤ +0.1V PWMcntl(Pin 10) = 0%	14			mAdc
		Icntl(Pin 10) ≥ +3.2V PWMcntl(Pin 10) = 100%			105	mAdc
Iin	Input Current Draw			1.9		Adc
Low Mode, Mode Select Ms (Pin 11) = 0V						
Iout	Output Current per Channel		13	14	15	mAdc
Iadj	Nominal Output Current Adjustment Range per Channel	Icntl(Pin 10) ≤ +0.1V PWMcntl(Pin 10) = 0%	2.4			mAdc
		Icntl(Pin 10) ≥ +3.2V PWMcntl(Pin 10) = 100%			14	mAdc
Iin	Input Current Draw			0.25		Adc

BRIGHTNESS CURVE



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INPUT AND OUTPUT CONNETOR PIN ASSIGNMENTS

INPUT CONNECTOR CON1 MOLEX 87438-1443	OUTPUT CONNECTOR CON2 MOLEX 53261-1071	OUTPUT CONNECTOR CON3 MOLEX 53261-1071
PIN# FUNCTION 1 +20.0 to +28.0V (PWR) 2 +20.0 to +28.0V (PWR) 3 +20.0 to +28.0V (PWR) 4 +20.0 to +28.0V (PWR) 5 GND (PWR) 6 GND (PWR) 7 GND (PWR) 8 GND (PWR) 9 ENABLE 10 ICNTL/PWMcntl 11 HI/LOW MODE SELECT 12 TBD 13 +5VDC REF OUT 14 GND (SIGNAL OUT)	PIN# FUNCTION 1 +LED (ANODE) 2 +LED (ANODE) 3 +LED (ANODE) 4 +LED (ANODE) 5 +LED (ANODE) 6 -LED (CATHODE #1) MASTER* 7 -LED (CATHODE #2) 8 -LED (CATHODE #3) 9 -LED (CATHODE #4) 10 NC	(NOT USED)

*The Master Channel must always be used.