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ACI-2501

PRODUCT DATA SHEET

04/16/14

I-DRIVE, 49.0 WATT LED DRIVER

(14 Channel 35V, 0-100mA per Channel)

GENERAL DESCRIPTION

The ACI-2501 operates as a true constant current source and is capable of driving up to 14 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 +10V to +15V DC.

This driver is designed to power the backlight of the NLT **NL160120AC27-32B** 21.3" display to its stock power specification.

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, and is designed to work with the Digital View LCD Controller and Button Board (See page 3 for more information).

MECHANICAL/ENVIRONMENTAL

Weight = 59 grams

Altitude = 40,000 ft max.

Humidity < 95% non-condensing

Size (L x W x H) = 6.69 IN x 2.95 IN x 0.365 IN

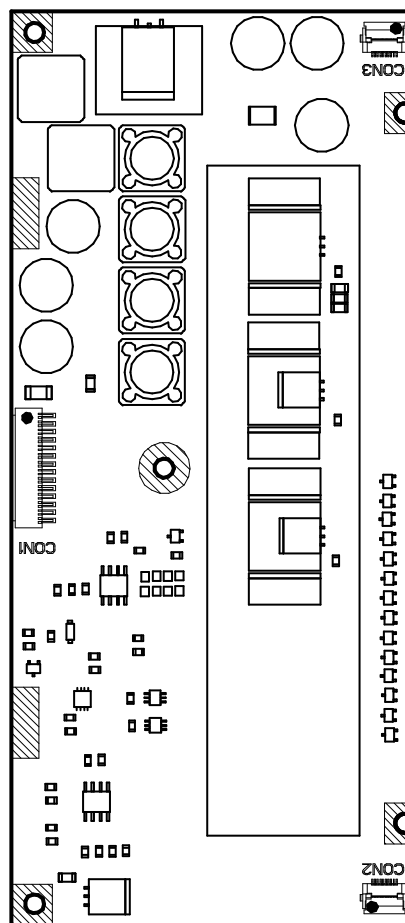
PCB thickness = 0.047 IN

Mounting Holes = 0.140 IN diameter (X5)

Input Power & Control Connector = CON1

LED Output Connectors = CON2 and CON3

RoHS Compliant



Please refer to Page 4, for input and output connector pin assignments.

Please refer to Page 5, for mechanical dimensions.

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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)	63.6	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
VinShutDown	Supply Voltage Shutdown (Reference to Ground)	9.3	9.7	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	35	Vdc
Icntl	LED Intensity Control Voltage	0.1	4.6	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

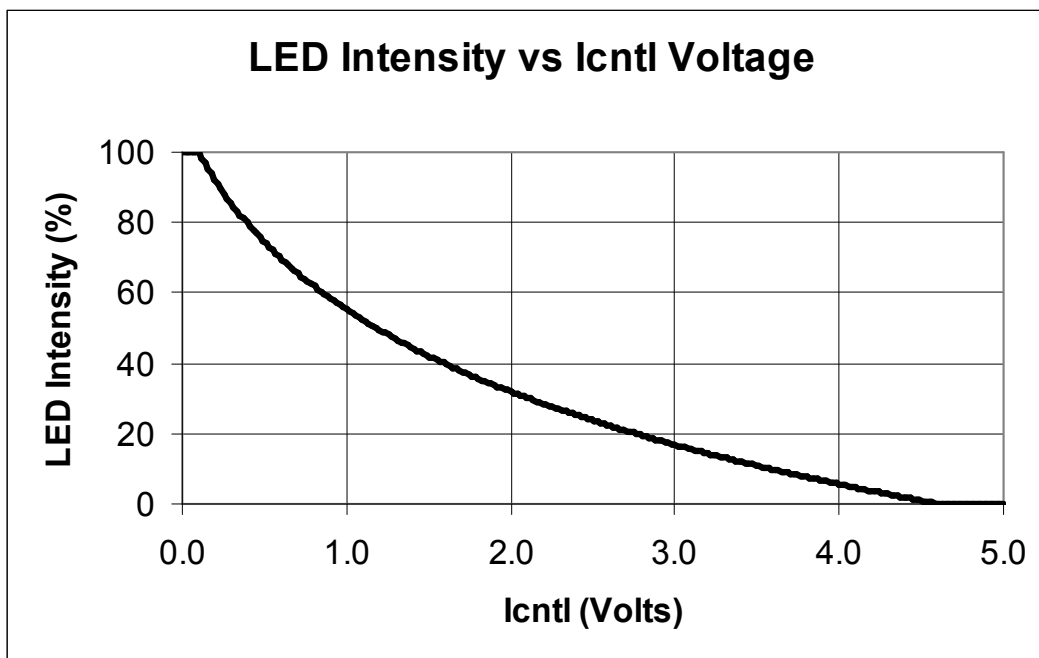
**Vin must be less than the minimum Forward-Drop Voltage (Vf).

ELECTRICAL CHARACTERISTICS

Vin = +12V, Vf = 35V per channel, # of channels = 14, Icntl = +0.1V, 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 10) <= +0.1 or PWMcntl(Pin 10) = 0%			100	mAdc
		Icntl(Pin 10) >= +4.6V or PWMcntl(Pin 10) = 100%	0			mAdc
PWMhi	PWM High Signal Level (V _{IH})		4.6			Vdc
PWMlo	PWM Low Signal Level (V _{IL})				0.1	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 13)	4.75	5.0	5.25	Vdc
Iin	Input Current Draw			4.6		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 9) = 0V			0.06	Adc
Eff	Electrical Efficiency			89		%

BRIGHTNESS CURVE



NOTE: The intensity response curve is designed to be compatible with the Digital View LCD Controller and Button Board.

Digital View LCD Controllers and Jumper Settings

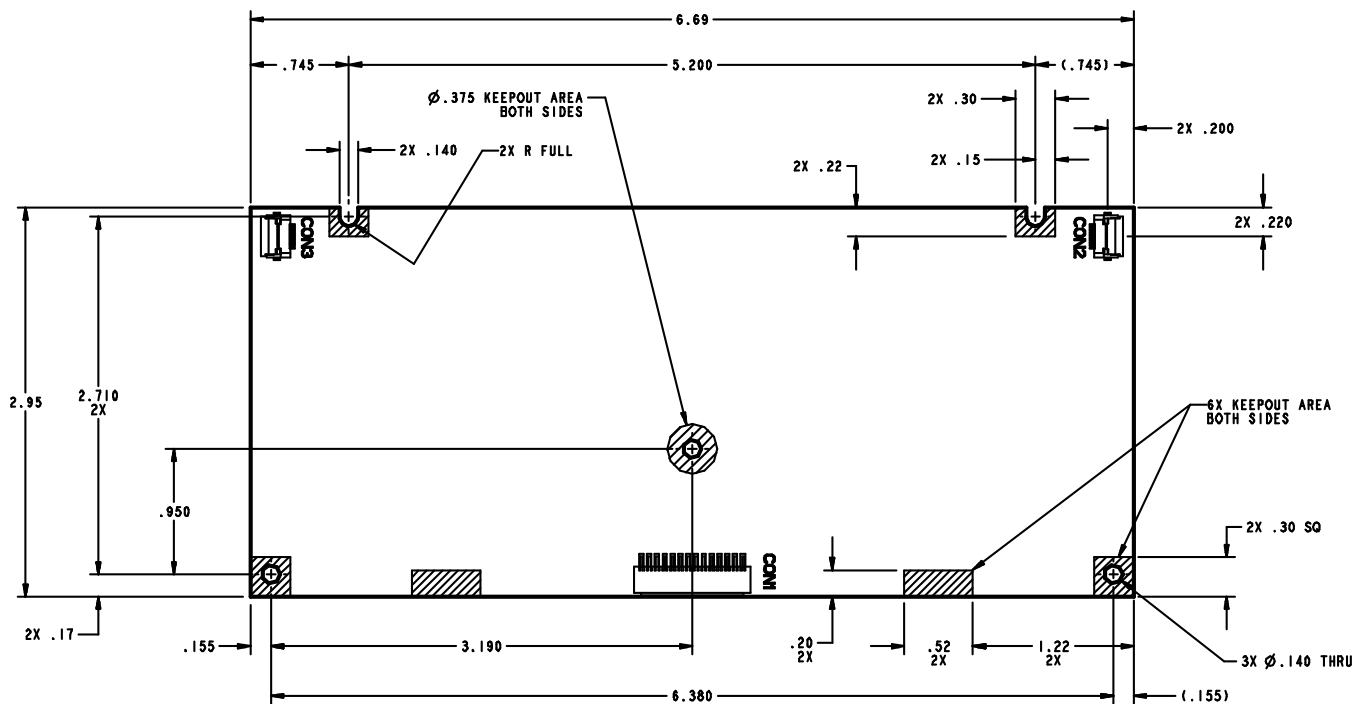
LCD Controller		Jumper Settings
Model	P/N	
ALR-1400		(JB2 = 2-3) (JB3 = 1-2) (JP2 = 1-2)
ALR-1920		(JB2 = 2-3) (JB3 = 1-2) (JB5 = 1-2)
DVS-1600		(JB1 = 2-3) (JB2 = 2-3) (JB3 = 1-2) (JB5 = 1-2)
SP-1600		(JB2 = 2-3) (JB3 = 1-2) (JP3 = 1-2)
SVH-1920		(JB2 = 2-3) (JB3 = 1-2) (JP3 = 1-2)
SVX-1920	41721003X-3 or up	(JB1 = 1-2) (JB2 = 2-3) (JB3 = 1-2) (JB5 = 1-2)

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INPUT AND OUTPUT CONNETOR PIN ASSIGNMENTS

INPUT CONNECTOR CON1 MOLEX 87438-1443	OUTPUT CONNECTOR CON2 HIROSE FH12-10S-0.5SH(55) 10 POS, 0.5MM FF, BOTTOM CONTACT	OUTPUT CONNECTOR CON3 HIROSE FH12-10S-0.5SH(55) 10 POS, 0.5MM FF, BOTTOM CONTACT
PIN# FUNCTION	PIN# FUNCTION	PIN# FUNCTION
1 +10 to +15V (PWR)	1 +LED (ANODE)	1 -LED (CATHODE #1)
2 +10 to +15V (PWR)	2 +LED (ANODE)	2 -LED (CATHODE #2)
3 +10 to +15V (PWR)	3 NC	3 -LED (CATHODE #3)
4 +10 to +15V (PWR)	4 -LED (CATHODE #1) (MASTER)	4 -LED (CATHODE #4)
5 GND (PWR)	5 -LED (CATHODE #2)	5 -LED (CATHODE #5)
6 GND (PWR)	6 -LED (CATHODE #3)	6 -LED (CATHODE #6)
7 GND (PWR)	7 -LED (CATHODE #4)	7 -LED (CATHODE #7)
8 GND (PWR)	8 -LED (CATHODE #5)	8 NC
9 ENABLE	9 -LED (CATHODE #6)	9 +LED (ANODE)
10 ICNTL / PWMcntl	10 -LED (CATHODE #7)	10 +LED (ANODE)
11 TBD		
12 TBD		
13 +5VDC REF OUT		
14 GND (SIGNAL OUT)		



COMPONENT SIDE
MAXIMUM COMPONENT HEIGHT = .318

Mechanical Dimensions
Dimensions are in inches

