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ACI-2438

PRODUCT DATA SHEET

08/14/17

I-DRIVE 5, 24.2 WATT LED DRIVER (Four Channel 55V, 0-110mA per Channel)

GENERAL DESCRIPTION

The ACI-2438 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 55V. This driver provides a complete integrated solution that is regulated over an input voltage range from +19.2 to +28.8V.

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 0.38 IN

PCB thickness = 0.062 IN

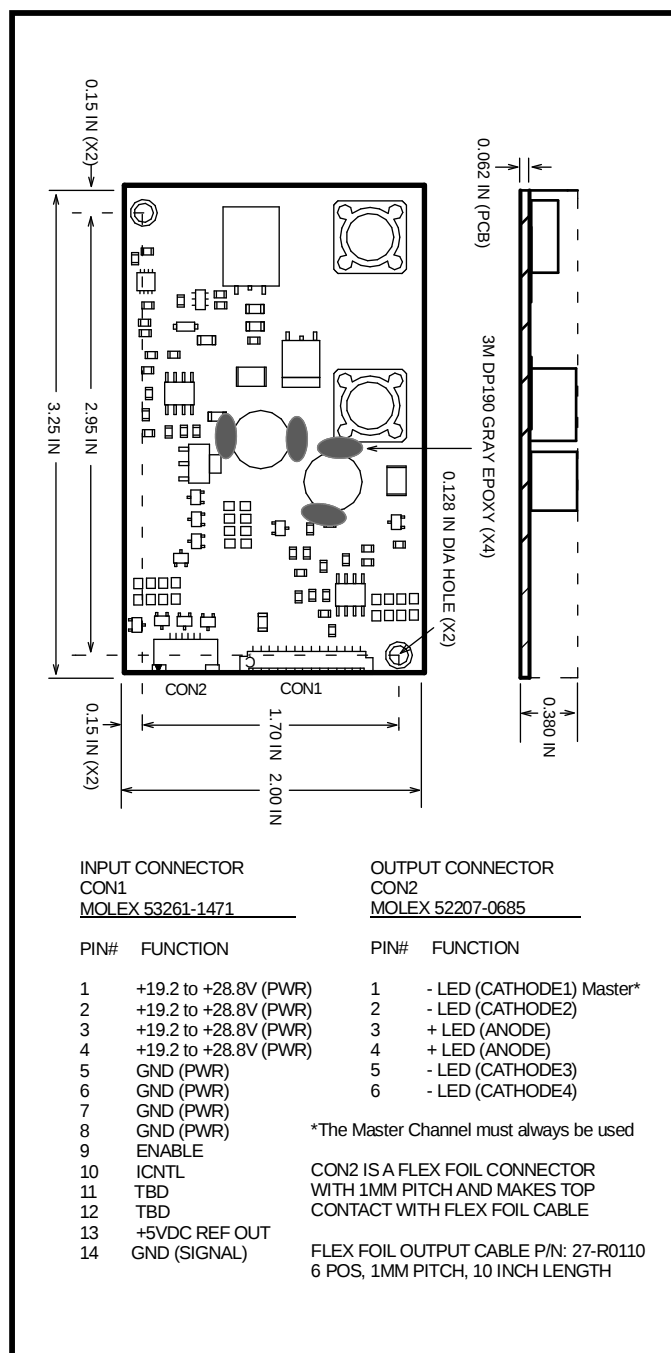
Mounting Holes = 0.128 IN diameter (X2)

Input Power & Control Connector = CON1

LED Output Connector = CON2

Specified Components secured with 3M DP190 Gray Epoxy

RoHS Compliant



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)	32	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)	19.2	28.8	Vdc
Vf	Series Connected Cumulative LED Forward-Drop Voltage	**Vin + 1	55	Vdc
Icntl	LED Intensity Control Voltage	0.25	4.75	Vdc

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

ELECTRICAL CHARACTERISTICS

Vin = +24V, Vf = 55V 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	57	62	67	Vdc
Iout	Output Current per Channel		104	110	116	mAdc
Iadj	Nominal Output Current Adjust Range Per Channel	Icntl(Pin 10) <= 0.25V	0			mAdc
		Icntl(Pin 10) >= 4.75V			110	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			1.12		Adc
Iind	Input Current Draw (Disabled)	Enable (Pin 9) = 0V			0.03	Adc
Eff	Electrical Efficiency			90		%

CAUTION: For proper LED Current, all four channels must be connected.

