



Endicott Research Group, Inc.

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# DMA22729

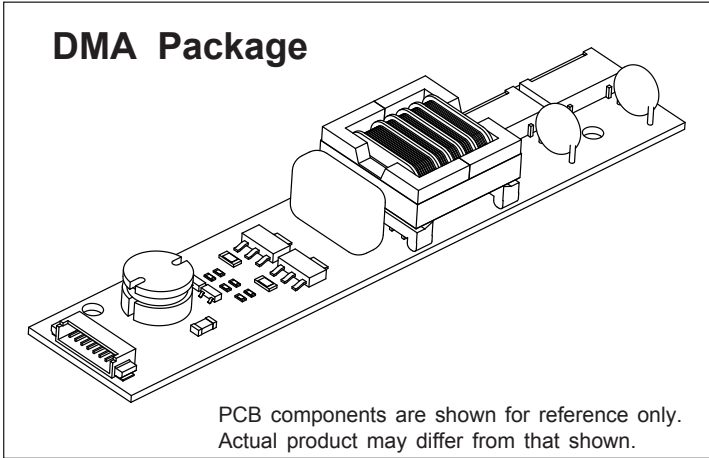
## Specifications and Applications Information

## Two Lamp DC to AC Inverter

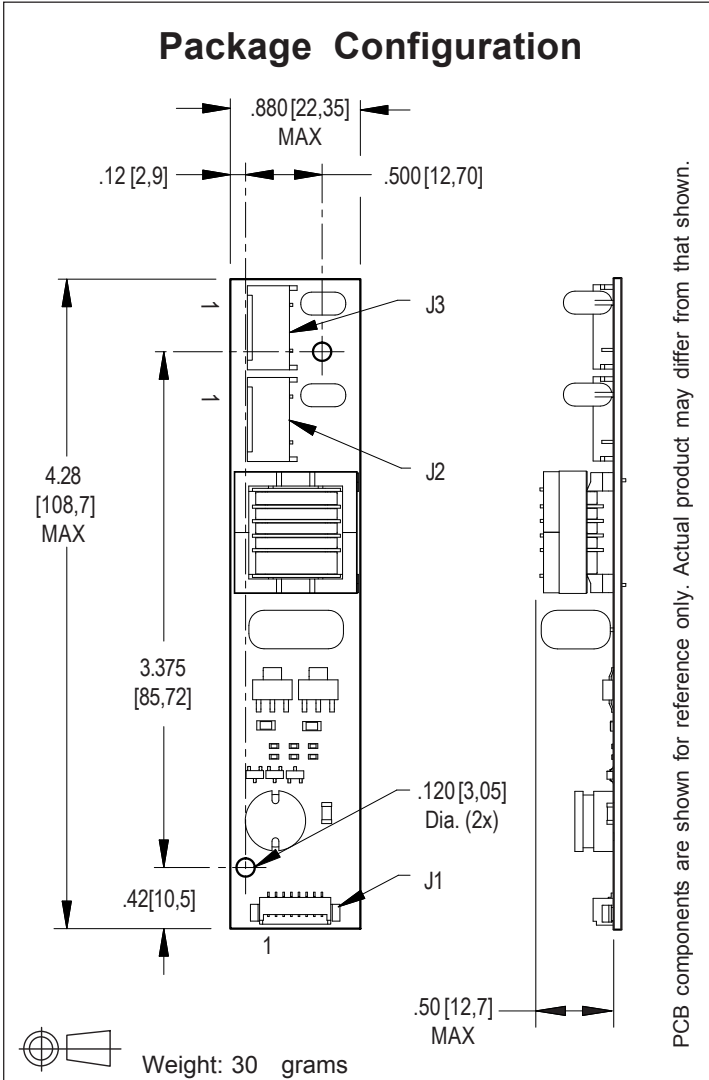
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The ERG DMA22729 (*DMA Series*) DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal. This unit is less than 13mm in height and the two mounting holes make installation very straight forward.

Powered by a regulated +5 volt DC source the DMA22729 is specially designed to power the Sharp LQ121S1DG31 backlight.



- ### Product Features
- ✓ Small Package Size, less than 13mm in height
  - ✓ High Efficiency
  - ✓ Made in U.S.A.



Connectors	
<b>J1 - Input</b>	<b>J2, J3 - Outputs</b>
MOLEX 53261-0871	JST SM02(8.0)B-BHS-1-TB

Pinouts	
J1-1 +Vin	J2-1 ACout
J1-2 +Vin	J2-2 ACreturn
J1-3 GND	
J1-4 GND	
J1-5 Enable/PWM	
J1-6 N/C	J3-1 ACout
J1-7 N/C	J3-2 ACreturn
J1-8 N/C	

**Absolute Maximum Ratings**

Rating	Symbol	Value	Units
Input Voltage Range	$V_{in}$	-0.3 to +5.5	Vdc
Storage Temperature	$T_{stg}$	-40 to +85	°C

**Operating Characteristics**

With a load simulating the referenced display and lamp warm-up of 5 minutes.  
Unless otherwise noted  $V_{in} = 5.00$  Volts dc and  $T_a = 25^{\circ}\text{C}$ .

Characteristic	Symbol	Min	Typ	Max	Units
Input Voltage	$V_{in}$	+4.50	+5.00	+5.25	Vdc
Component Surface <sup>(note 1)</sup> Temperature	$T_s$	-20	-	+80	°C
Input Current <sup>(note 2)</sup>	$I_{in}$	-	1.57	1.80	Adc
Input Ripple Current	$I_{rip}$	-	-	-	mA <sub>pk-pk</sub>
Operating Frequency	$F_o$	39	44	49	kHz
Minimum Output Voltage <sup>(note 3)</sup>	$V_{out}(\text{min})$	1500	-	-	Vrms
Efficiency	$\eta$	-	84	-	%
Output Current (per lamp)	$I_{out}$	-	6.0	-	mArms
Output Voltage	$V_{out}$	-	550	-	Vrms
<b>Enable Pin</b>					
Turn-off Threshold	$V_{thoff}$	GND	-	0.7	Vdc
Turn-on Threshold	$V_{thon}$	2.0	-	$V_{in}$	Vdc

Specifications subject to change without notice.

(Note 1) Surface temperature must not exceed 80 degrees C; thermal management actions may be required.

(Note 2) Input current in excess of maximum may indicate a load/inverter mismatch condition, which can result in reduced reliability. Please contact ERG technical support.

(Note 3) Provided data is not tested but guaranteed by design.

**Application Notes:**

- 1) The minimum distance from high voltage areas of the inverter to any conductive material should be .12 inches per kilovolt of starting voltage.
- 2) Mounting hardware to be non-conductive.
- 3) Open framed inverters should not be used in applications at altitudes over 10,000 feet.
- 4) ACreturn should be left floating, not grounded.
- 5) Contact ERG for possible exceptions.



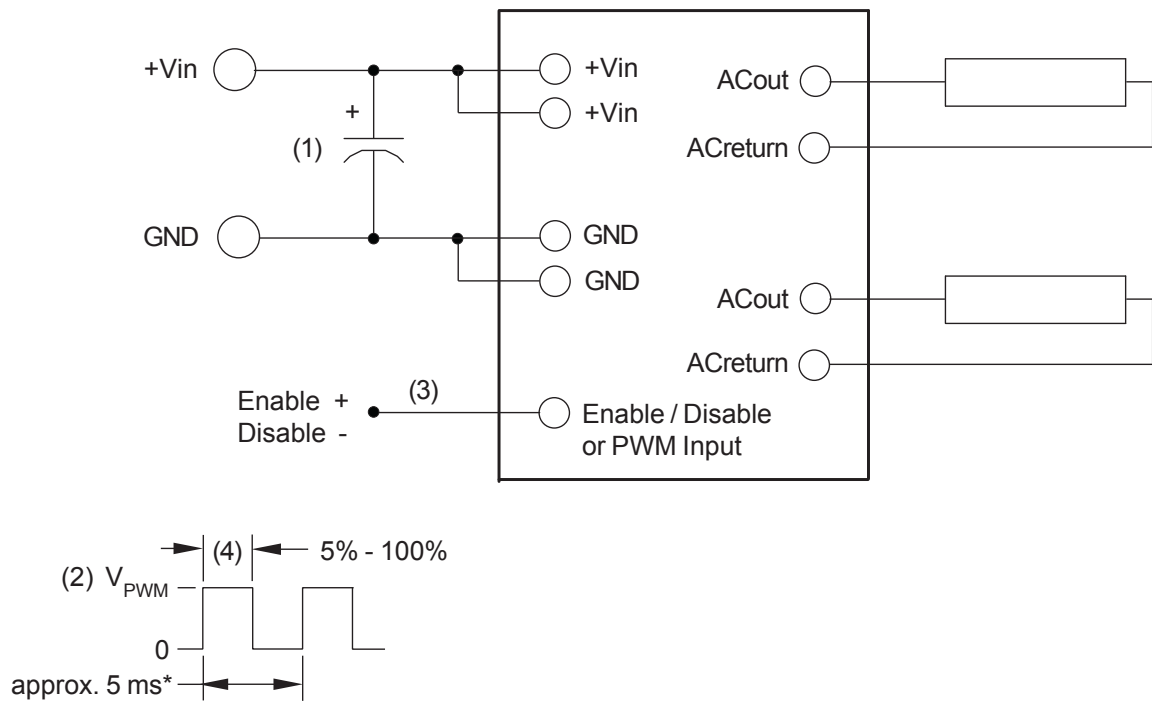
### Pin Descriptions

- Vin** Input voltage to the inverter. Both pins should be connected for optimum reliability and efficiency.
- GND** Inverter ground. Both pins should be connected for optimum reliability and efficiency.
- Enable** A positive voltage will turn the inverter on. Grounding this pin will turn the inverter off.

### Application information

This inverter is designed to power up to two cold cathode fluorescent lamps.  
 The enable input allows on /off control of the inverter.  
 An external PWM source applied to this enable input will provide CCFL dimming.

### Special Application



- Note 1 Low ESR type input by-pass capacitor (22 uF - 100 uF) may be required to reduce reflected ripple.
- Note 2  $V_{P_{PWM}}$  from 2.4V to less than or equal to +Vin.
- Note 3 Full brightness without PWM control requires that pin 5 be tied to +Vin, Pin 5 must be at 0V to turn off.
- Note 4 Duty Cycle 5% - 100%.



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