



Endicott Research Group, Inc.

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# 10mA3299

## Specifications and Applications Information

06/06/05

Preliminary

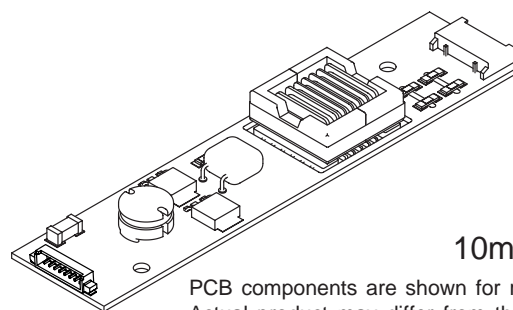
### 10m Class Two Lamp DC to AC Inverter

The ERG (10m Class) low profile dc to ac inverter is specifically designed to power the the following display module(s) to a moderate brightness level.

- Sharp LQ080Y5DR02 CCFL display from a +12 volt dc power supply.

This low profile inverter features:

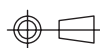
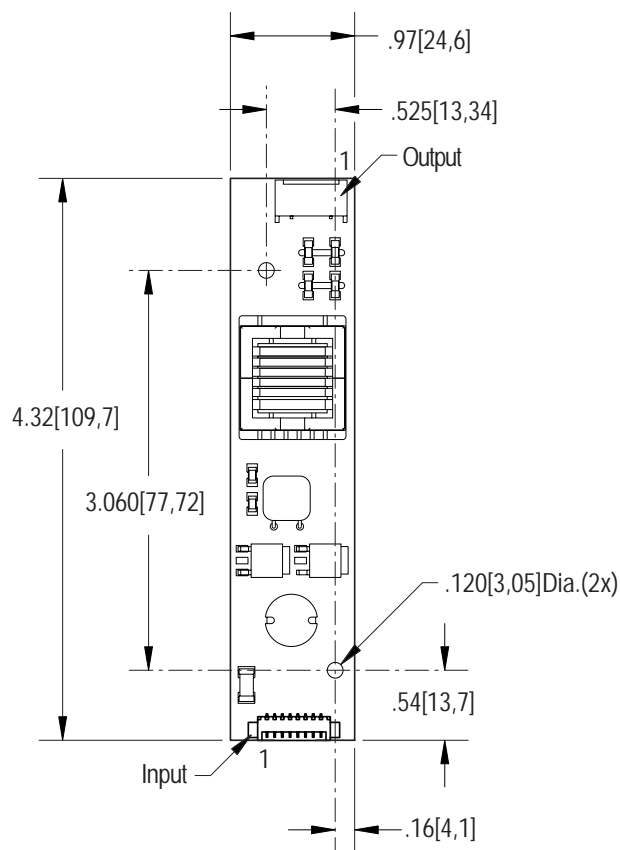
- ✓ Less Than 10 mm in Height
- ✓ LCD Module Specific
- ✓ Display Compatible Output Connector
- ✓ Firm Specifications
- ✓ Application Information
- ✓ Designed, Manufactured and Supported in the USA
- ✓ Custom Input and Output Voltages
- ✓ Flexible System Interface



10m Package

PCB components are shown for reference only. Actual product may differ from that shown.

#### Package Configuration



Mass: 22 grams

PCB components are shown for reference only. Actual product may differ from that shown.

#### Connectors

Input Connector	Output Connector
Molex 53261-0890	JST SM04(4.0)B-BHS-1-TB
J1-1 Vin(+)	J2-1 ACout
J1-2 Vin(+)	J2-2 ACout
J1-3 GND	J2-3 ACreturn
J1-4 GND	J2-4 ACreturn
J1-5 Enable *	
J1-6 N/C	
J1-7 N/C	
J1-8 N/C	

\* Valid only with JP1 removed.

# 10mA3299

## Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	Vin	-0.3 to +13.2	Vdc
Storage Temperature	Tstg	-40 to +85	°C

## Operating Characteristics

With referenced display and lamp warm-up of 5 minutes.  
Unless otherwise noted Vin = 12.00 Volts dc and Ta = 25°C

Characteristic	Symbol	Min	Typ	Max	Units
Input Voltage	Vin	+10.8	+12.0	+12.6	Vdc
Component Surface Temperature	Ts	-20	-	+80	°C
Input Current <sup>(note 1)</sup>	Iin	-	.52	.60	Adc
Operating Frequency	Fo	28	33	38	KHz
Minimum Output Voltage	Vout (min)	1800	-	-	Vrms
Efficiency	-	-	78	-	%
Output Current (per lamp)	Iout	-	5.2	-	marms
Output Voltage	Vout	-	470	-	Vrms
Enable Pin Input Current Requirement <sup>(note 2)</sup>	Iin	-	8	-	madc
Enable Pin Input Voltage Requirement <sup>(note 2)</sup>	Vin	<b>Off</b> 0 or Floating	<b>On</b> 12	<b>On</b> 13.2	Vdc

Specifications subject to change without notice.

(Note 1) 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 2) Valid only with JP1 removed. See Recommended User Disable/Interface Circuit on page 3.

### 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 should be non-conductive.
- 3) Open framed inverters should not be used in applications at altitudes over 10,000 feet.
- 4) Contact ERG for possible exceptions.



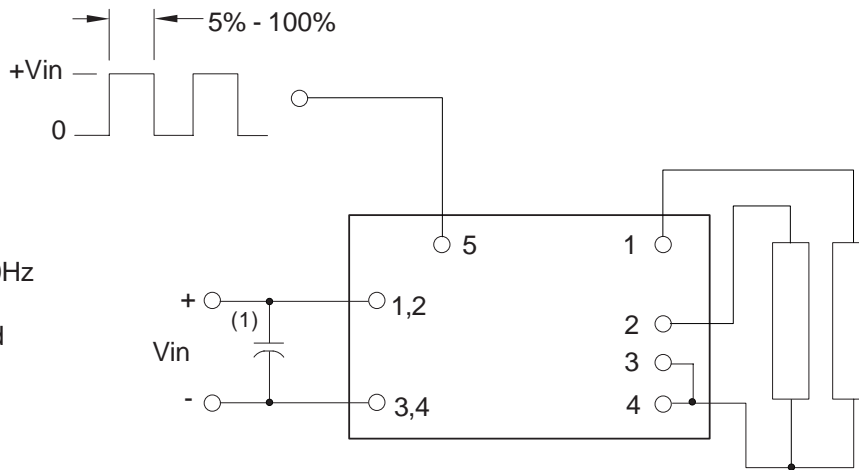
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Made in USA

## PWM Dimming

(Valid only with JP1 removed)



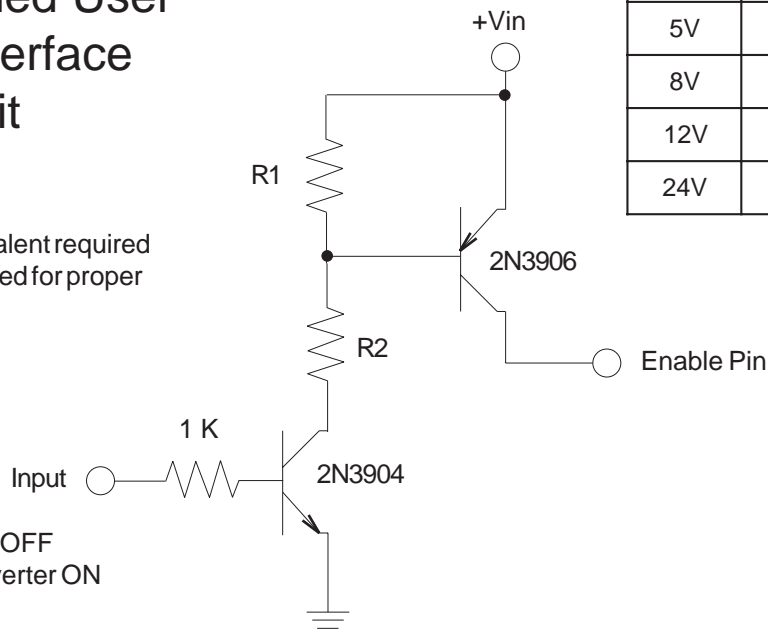
PWM frequency 100-300Hz should be selected to be compatible with LCD and display driver.

(1) Low ESR type input by-pass capacitor (22 uf - 100uf) may be required to reduce reflected ripple.

## Recommended User Disable/Interface Circuit

Circuit or equivalent required with JP1 removed for proper inverter turnoff.

0-0.5V Inverter OFF  
2.0V - 12.6V Inverter ON



Vin	R1	R2
5V	3.3K	1.5K
8V	3.3K	1.8K
12V	3.3K	2.2K
24V	10.0K	8.2K