



Endicott Research Group, Inc.

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S23294

Specifications and Applications Information

02/28/11

8m Class
Two Lamp
DC to AC Inverter

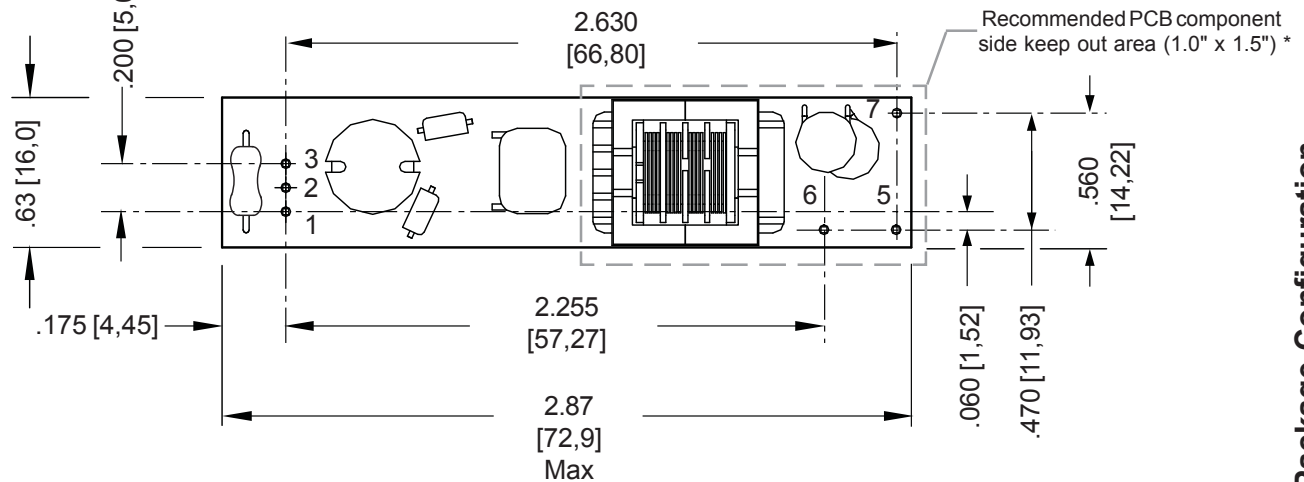
The ERG S23294 (*S-Series*) low profile dc to ac inverter is specifically designed to power the NEC NL6448BC20-20 display backlight to a moderate brightness level from a +5 Volt dc source. See page 2 for specific inverter application requirements.

This low profile inverter features:

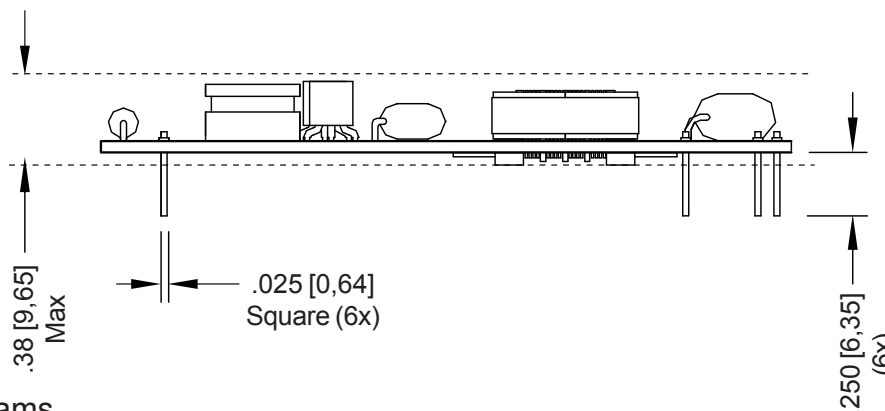
- ✓ LCD Module Specific
- ✓ Display Compatible Output Connector
- ✓ Firm Specifications
- ✓ Application Information
- ✓ Designed, Manufactured and Supported in the USA
- ✓ Custom Input and Output Voltages
- ✓ Flexible System Interface

S-Series

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



Package Configuration



1. GND
2. +Vin
3. Enable/PWM
4. N/C
5. ACout
6. ACreturn
7. ACout

Mass: 25 grams

Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	V_{in}	-0.3 to +5.5	Vdc
Storage Temperature	T_{stg}	-40 to +80	°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 Temperature (note 1)	T_s	-20	-	+80	°C
Input Current (note 2)	I_{in}	-	0.91	1.05	Adc
Operating Frequency	F_o	43	48	53	kHz
Minimum Output Voltage (note 3)	V_{out} (min)	1000	-	-	Vrms
Efficiency	η	-	85	-	%
Output Current (per lamp)	I_{out}	-	5.2	-	mArms
Output Voltage	V_{out}	-	370	-	Vrms
Enable Pin Input Current Requirement (note 4)	I_{Enable}	-	10.6	-	mAdc

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.

(Note 4) Required User Enable/Disable Interface Circuit is shown 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 to be non-conductive.
- 3) Open framed inverters should not be used in applications at altitudes over 10,000 feet.
- 4) Printed circuit boards to be free of traces beneath the inverter.
- 5) ACreturn should be left floating, not grounded.
- 6) Contact ERG for possible exceptions.



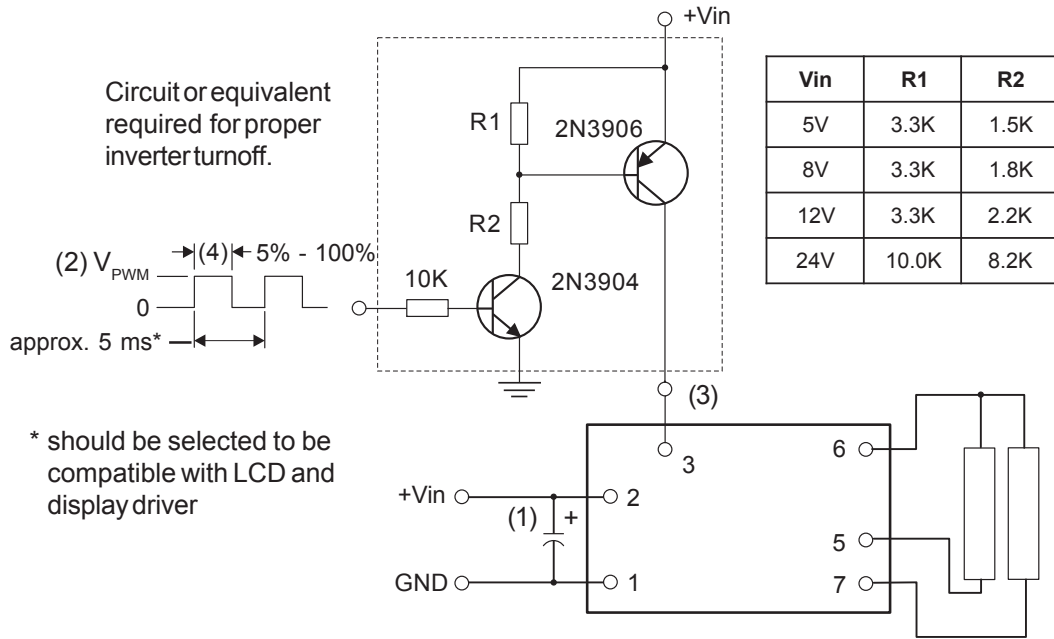
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Made in USA

PWM Dimming

Required User Enable/Disable Interface Circuit



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