



Endicott Research Group, Inc.

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E2059

Specifications and Applications Information

06/07/11

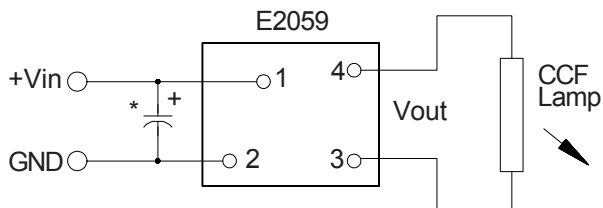
The E2059 (E200II Series) dc to ac inverter is specifically designed to power the Hitachi LMG5278XUCF or LMG5272XUCF display backlights to a lower than nominal brightness level from a +5 Volt dc source.

The E2059's small size, encapsulated package and low input power requirements (typically 1.8 Watts) make it the ideal power source for battery applications where small size, high efficiency and reliability are critical.

This standard inverter is designed to satisfy the most common cold-cathode lighting requirements for the LMG5278XUCF and LMG5272XUCF displays. Custom units, providing different inputs, outputs or package refinements are available.

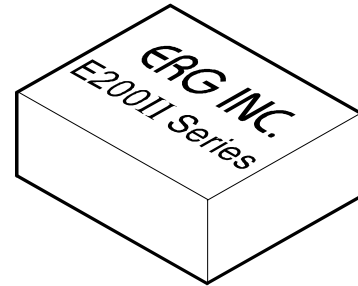
Made in U.S.A.

Connection Diagram



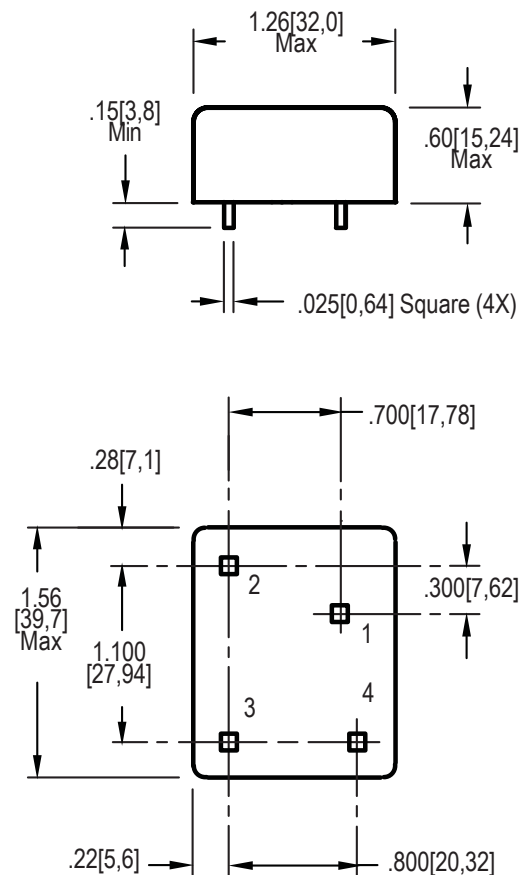
* Low ESR type input by-pass capacitor (22 uF - 100 uF) may be required to reduce reflected ripple.

Single Lamp DC to AC Inverter



E200II Package

Package Configuration



1. +Vin
2. GND
3. ACreturn
4. ACout





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 either of the referenced displays 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}	-	0.36	0.42	Adc
Operating Frequency	F_o	27	32	37	kHz
Minimum Output Voltage (note 3)	$V_{out}(\text{min})$	1100	-	-	Vrms
Efficiency	η	-	85	-	%
Output Current (per lamp)	I_{out}	-	4.25	-	mArms
Output Voltage	V_{out}	-	360	-	Vrms

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) Printed circuit boards to be free of traces beneath the inverter.
- 2) The minimum distance from high voltage areas of the inverter to any conductive material should be .12 inches per kilovolt of starting voltage.
- 3) ACreturn should be left floating, not grounded.
- 4) Contact ERG for possible exceptions.



Endicott Research Group, Inc. (ERG) reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by ERG is believed to be accurate and reliable. However, no responsibility is assumed by ERG for its use.