Endicott Research Group, Inc.
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SE23295

Specifications and Applications Information

08/30/07 Preliminary

8m Class
DC to AC Inverter

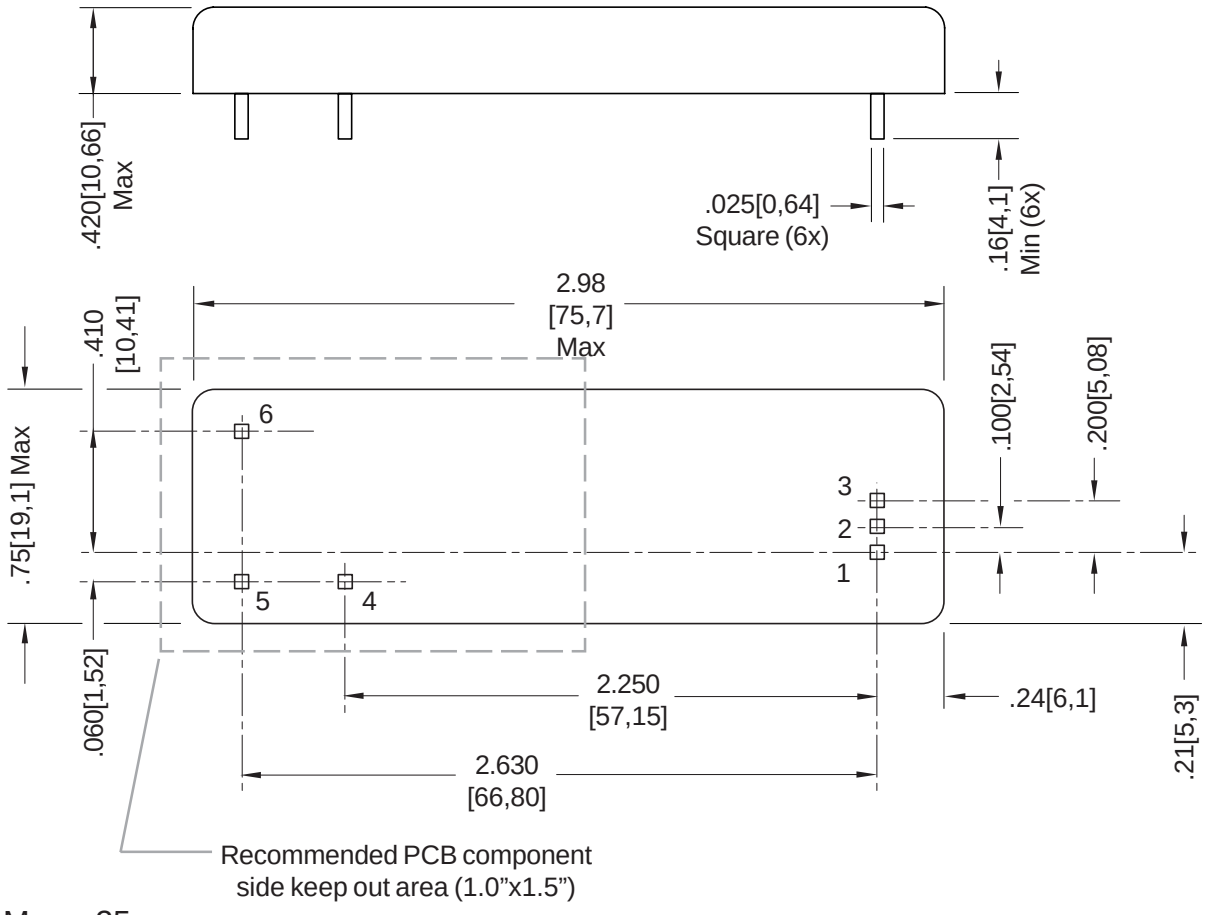
The SE23295 (**S-Series**) dc to ac inverter is specifically designed to power the Sharp LQ064V3DG01 display to a moderate brightness level from a +12 volt dc source.

The SE23295's small size and encapsulated package make it the ideal power source for applications where size, high efficiency and reliability are critical.

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

S-Series

Package Configuration



1. -Vin
2. +Vin
3. Enable/PWM
4. ACreturn
5. ACout
6. ACout

Mass: 25 grams

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 a load simulating the 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 (note 2)	Ts	-20	-	+80	°C
Input Current (note 1)	Iin	-	0.40	0.46	Adc
Operating Frequency	Fo	34	39	44	kHz
Minimum Output Voltage (note 3)	Vout (min)	1000	-	-	Vrms
Efficiency	**h**	-	79	-	%
Output Current (per lamp)	Iout	-	5.1	-	mArms
Output Voltage	Vout	-	370	-	Vrms
Enable Pin Input Current Requirement (note 4)	Ien	-	3.2	-	mAdc

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) Surface temperature must not exceed 80 degrees C; thermal management actions may be required.
(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) 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) Contact ERG for possible exceptions.

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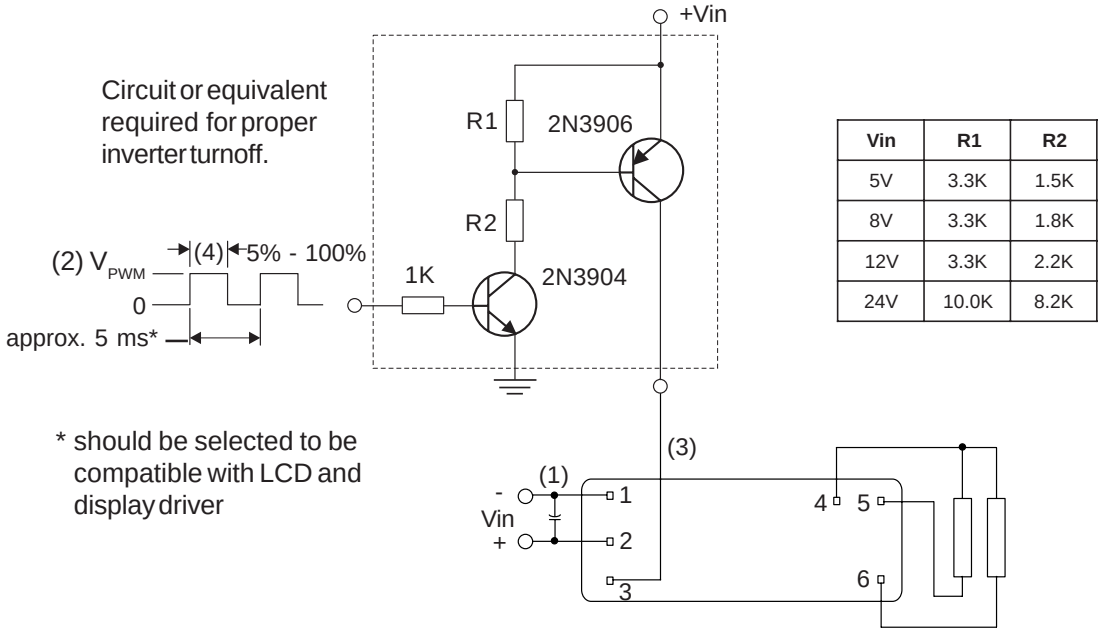
Made in USA

PWM Dimming

Required User Enable/Disable Interface Circuit



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

(1) Low ESR type input by-pass capacitor (22 uf - 100 uf) may be required to reduce reflected ripple.
(2) V_{PWM} from 2.4V to less than or equal to 13.2V.
(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%.