Endicott Research Group, Inc.
2601 Wayne St., Endicott, NY 13760
607-754-9187 Fax 607-754-9255
http://www.ergpower.com

MS263768

Specifications and Applications Information

02/21/08 Preliminary

Six Lamp
DC to AC Inverter

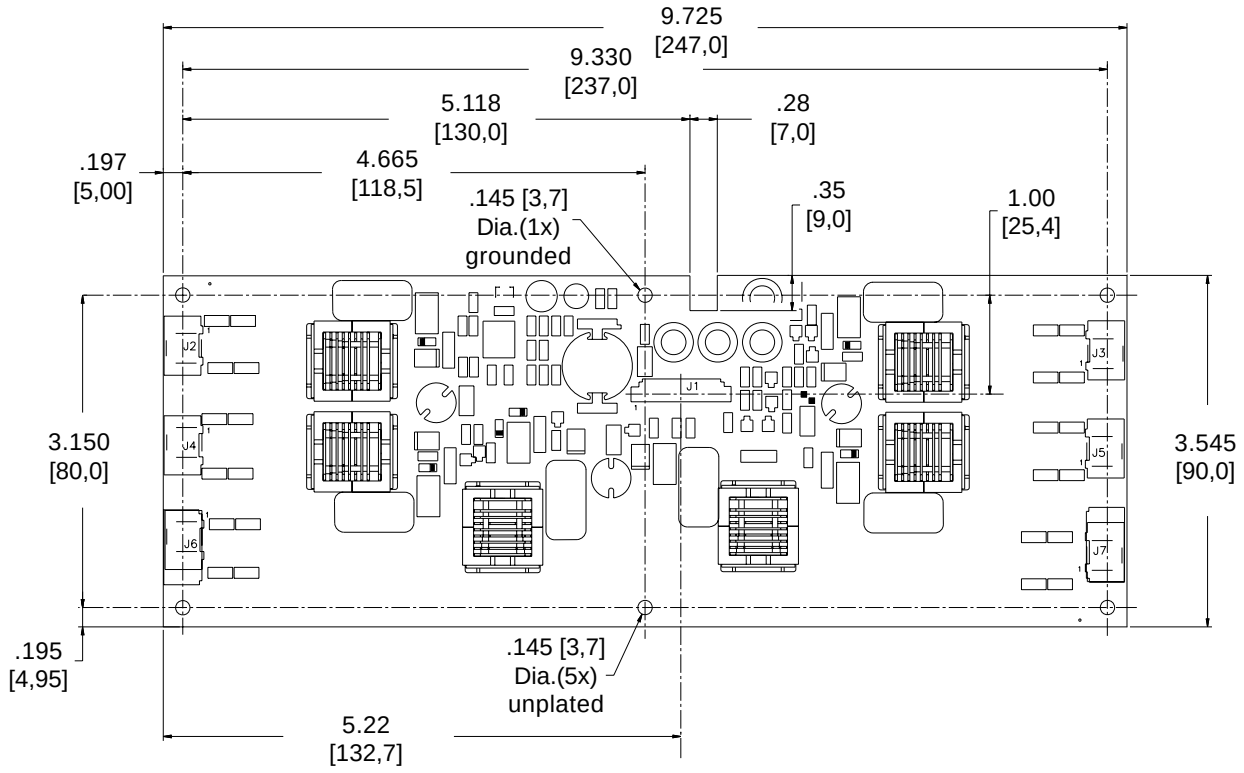
The ERG MS263768 DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal. The five mounting holes makes installation very straight forward.

Powered by a regulated +12 volt DC source the MS263768 is specially designed to power the Sharp LQ231U1LW01 display.

Product Features

- ✓ High Efficiency
- ✓ Made in U.S.A.
- ✓ Excellent dimming range.

Package Configuration



Weight: 180 grams

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

Connectors and Pin Descriptions

J1 Molex 53398-1571		J2,J3,J4,J5,J6,J7 JST SM02(8.0)B-BHS-1-TB	
J1-1,3,5	+Vin		
J1-2,4,6	+Vin	J2,J3,J4,J5,J6,J7-1	ACout
J1-7,11,13	GND		
J1-8,10,15	GND	J2,J3,J4,J5,J6,J7-2	ACreturn
J1-14	N/C		
J1-9	Enable1		
J1-12	Enable2(not applicable)		

Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	V_{in}	-0.3 to +13.2	Vdc
Storage Temperature	T_{stg}	-40 to +85	°C

Operating Characteristics

With a load simulating the referenced display and lamp warm-up of 20 minutes.
Unless otherwise noted Vin = 12.00 Volts dc and Ta = 25°C.

Characteristic	Symbol	Min	Typ	Max	Units
Input Voltage	V_{in}	+10.8	+12.0	+12.6	Vdc
Component Surface Temperature (Note 1)	T_s	-20	-	+80	°C
Input Current (Note 2)	I_{in}	-	3.5	4.1	Adc
Input Ripple Current	I_{rip}	-	50	-	mA_{pk-pk}
Operating Frequency	F_o	25	30	35	kHz
Minimum Output Voltage (Note 3)	V_{out} (min)	2600	-	-	Vrms
Efficiency (Note 4)	**h**	-	88	-	%
Output Current (per lamp)	I_{out}	-	6.2	-	mArms
Output Voltage	V_{out}	-	996	-	Vrms
Enable Pin (Enable2 not applicable)					
Turn-off Threshold	V_{thoff}	GND	-	0.5	Vdc
Turn-on Threshold	V_{thon}	2.5	-	Vin	Vdc
Impedance to Vin	R_{enable}	9.5	10.0	10.5	kOhms

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) Efficiency is calculated using 996 Vrms lamp voltage.

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) Contact ERG for possible exceptions.

Pin Descriptions

Vin	Input voltage to the inverter. All pins should be connected for optimum reliability and efficiency .
GND	Inverter ground. All pins should be connected for optimum reliability and efficiency.
Enable1	Permits ON/OFF control of the six CCFLs. A five volt level turns the CCFLs ON, Ground turns these CCFLs OFF.
Enable2	(Does Not Apply)

Application information

The MS263768 is designed to power six cold cathode fluorescent lamps with combined power of 50 watts.

External shutdown of the inverter is accomplished using the Enable1. Pulling this pin low (below Vthoff) disables the applicable inverter. Enabling the inverters is accomplished by pulling this pin high (above Vthon).

External PWM circuits may be used by applying their signal to the Enable1 input.

Typical Application

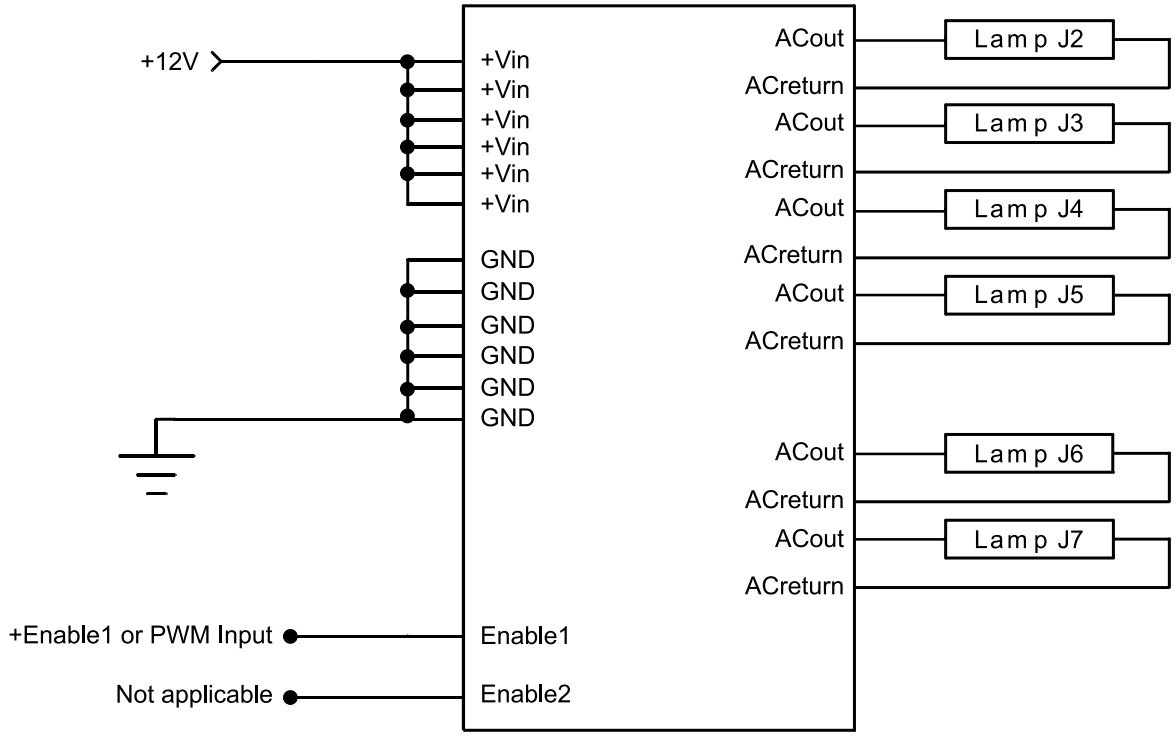


Figure 1