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MS262768

Specifications and Applications Information

01/11/11

The ERG MS262768 DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal or by using the onboard PWM with an external analog voltage. This unit is only 17mm in height and the four mounting holes make installation very straight forward.

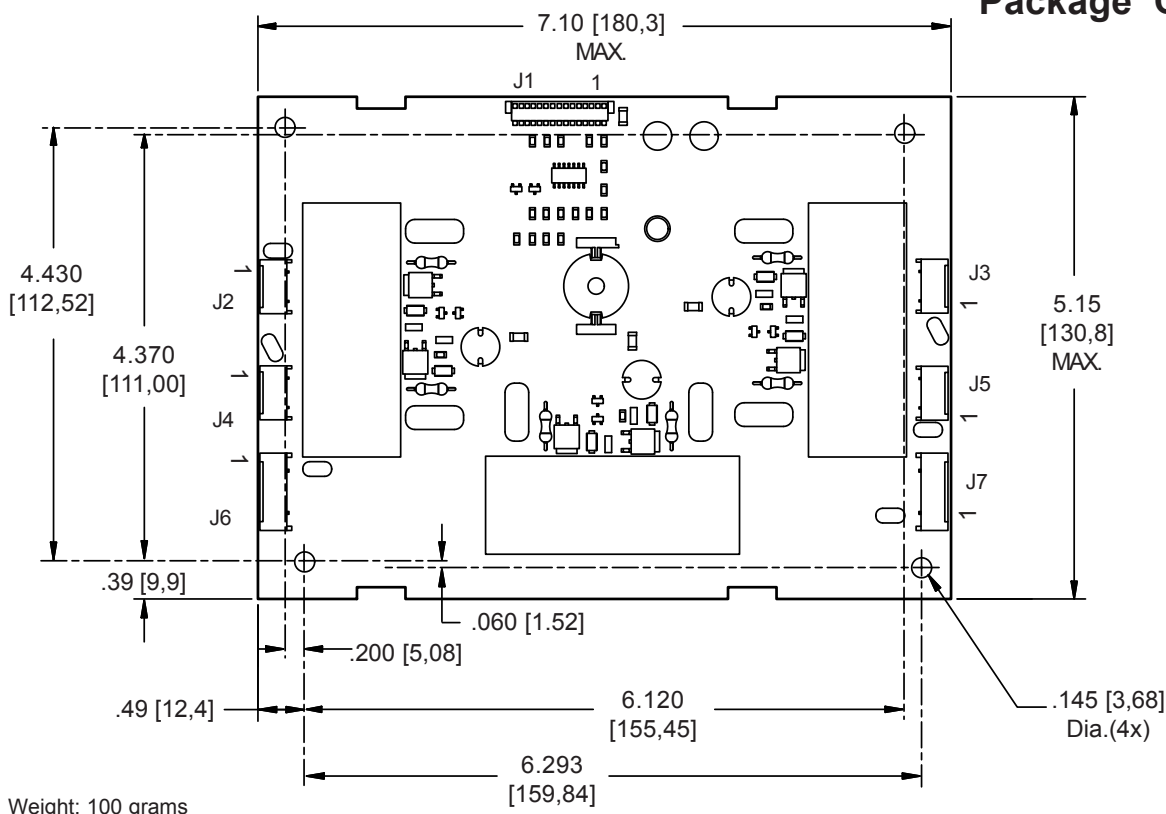
Powered by a regulated +12 volt DC source, the MS262768 is specially designed to power the Samsung LTM213U3-L02 display backlight.

Six Lamp
DC to AC Inverter

Product Features

- ✓ Encapsulated high voltage transformers
- ✓ High Efficiency
- ✓ Made in U.S.A.
- ✓ Excellent dimming range

Package Configuration



Weight: 100 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 JST SM02(8.0)B-BHS-1-TB	J6,J7 JST SM02(12.0)B-BHS-1-TB
J1-1,3,5 +Vin		
J1-2,4,6 +Vin		
J1-7,11,13 GND	J2,J3,J4,J5-1 ACout	J6,J7-1 ACout
J1-8,10,15 GND	J2,J3,J4,J5-2 ACreturn	J6,J7-2 ACreturn
J1-14 Control		
J1-9 Test Point		
J1-12 Enable		

**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, $V_{in} = 12.00$ Volts dc and $T_a = 25^\circ\text{C}$.

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}	-	3.1	3.6	Adc
Input Ripple Current	I_{rip}	-	50	-	mA _{pk-pk}
Operating Frequency	F_o	31	36	41	kHz
Minimum Output Voltage (note 3)	$V_{out}(\text{min})$	2000	-	-	Vrms
Efficiency	η	-	93	-	%
Output Current (per lamp)	I_{out}	-	6.7	-	mArms
Output Voltage	V_{out}	-	860	-	Vrms
Enable Pin					
Turn-off Threshold	V_{thoff}	GND	-	2.0	Vdc
Turn-on Threshold	V_{thon}	4.0	-	V_{in}	Vdc
Impedance to V_{in}	R_{Enable}	-	10	-	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.

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) ACreturn should be left floating, not grounded.
- 5) Contact ERG for possible exceptions.



Onboard PWM

Unless otherwise noted $V_{in} = 12.00$ Volts DC, $T_a = 25$ °C and unit has been running for 5 minutes.

Characteristic	Symbol	Min	Typ	Max	Units
Frequency	f_{pwm}	-	160	-	Hz
Control Input Bias Current	I_{cbias}	-	-	10	μA

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.
- Control** Analog voltage input to the onboard pulse width modulator. Increasing this voltage increases the off time of the onboard PWM resulting in decreased brightness.
- Enable** Inverter enable. Pull this pin low to disable inverter operation. If this pin is left floating or driven high, the inverter is enabled.

Application information

The MS262768 is designed to power six cold cathode fluorescent lamps with combined power of 50 watts.

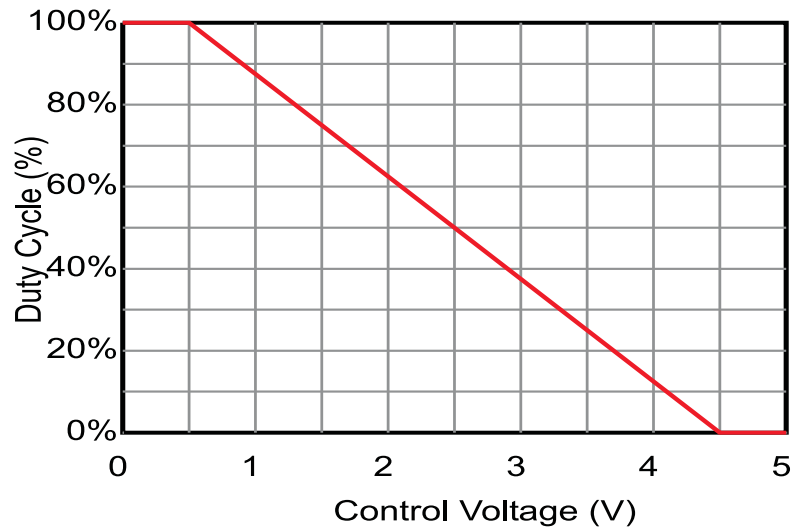
External shutdown of the inverter is accomplished using the Enable pin. Pulling this pin low (below V_{thoff}) disables the inverter. Enabling the inverter is accomplished by pulling this pin high (above V_{thon}).

An analog voltage applied to the Control pin will activate the on board PWM circuit. Figure 1 shows how to connect the inverter for onboard PWM operation. Graph 1 shows the relationship of PWM duty cycle to input control voltage.

An external PWM circuit may be used by applying this signal to the enable input while connecting the control input to ground.



Control Voltage vs. Duty Cycle



Graph 1

Typical Application

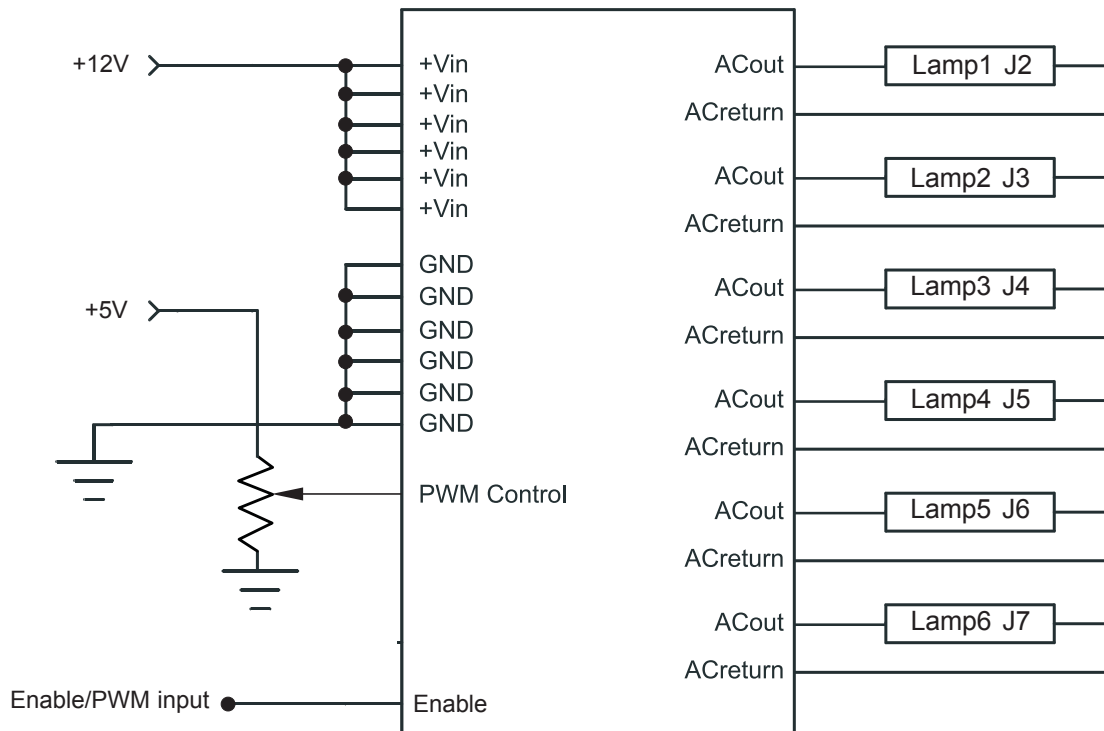


Figure 1



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