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DMB42306

Specifications and Applications Information

12/29/99 Preliminary

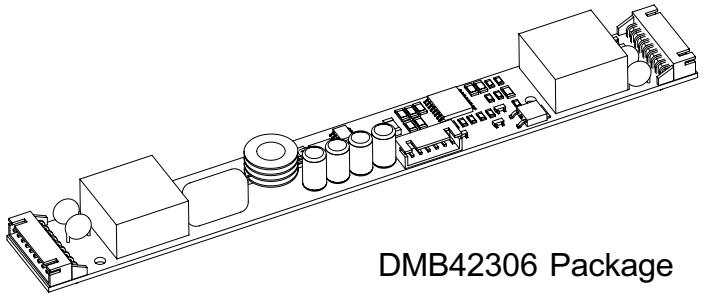
Four Tube DC to AC Inverter

The ERG DMB42306 (DMB Series) DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal or an analog voltage. This unit is less than 17mm in height.

Powered by a regulated 12 VDC source the DMB42306 is specially designed to power the Sharp LQ181E1DG01/11 display.

Product Features

- ✓ Small Package Size, less than 17mm in height.
- ✓ High Efficiency
- ✓ Made in U.S.A.

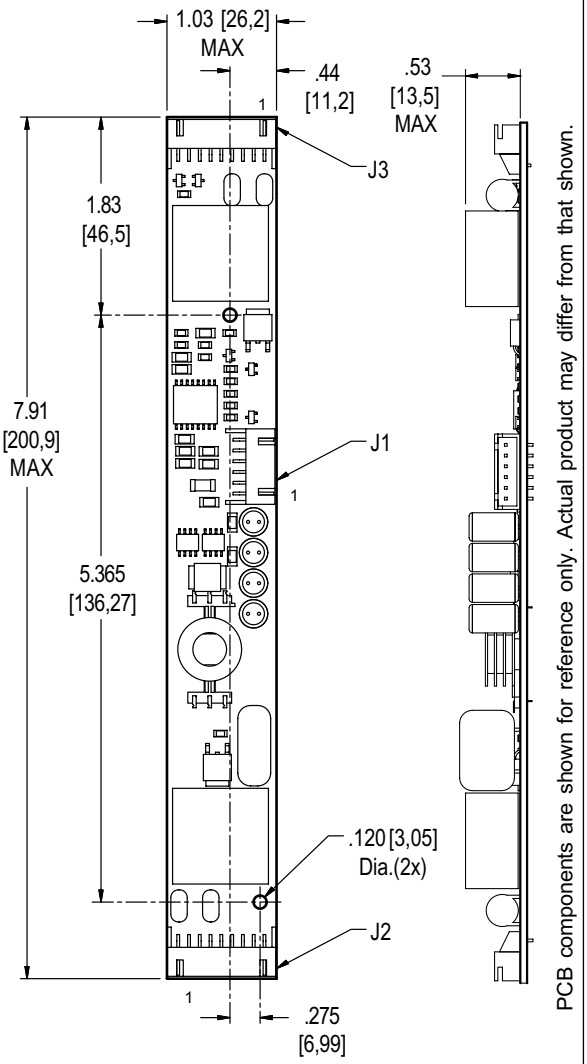


DMB42306 Package

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

Connectors		
J1 JST S6B-XH-A	J2 JST S9B-XH-A	J3 JST S9B-XH-A

Package Configuration



Pinouts

J1-1	Vin	J2-1	Lamp A Vhigh	J3-1	Lamp A Vhigh
J1-2	Vin	J2-4	Lamp B Vhigh	J3-4	Lamp B Vhigh
J1-3	GND	J2-7	Lamp A Vlow	J3-7	Lamp A Vlow
J1-4	GND	J2-9	Lamp B Vlow	J3-9	Lamp B Vlow
J1-5	Enable				
J1-6	Control				

DMB42306

Absolute Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Input Voltage	V_{in}	-0.3 to +15	V_{DC}
Disable	$V_{Disable}$	-0.3 to +5.5	V_{DC}
Operating Temperature	T_a	0 to +85	°C
Storage Temperature	T_s	-40 to +85	°C

Recommended Operating Conditions

Rating	Symbol	Value	Units
Input Voltage	V_{in}	10.8 to 13.2	V_{DC}
Operating Temperature (Note 2)	T_a	0 to +50	°C

Electrical Characteristics

Unless otherwise noted Vin = 12.00 Volts DC , T_a = 25 °C and unit has been running for 5 minutes.

Characteristic	Symbol	Min	Typ	Max	Units
Inverter					
Input Current	I_{in}	-	1.70	2.10	A_{DC}
Input Ripple Current	I_{rip}	-	100	-	mA_{pk-pk}
Operating Frequency	F_o	35	40	45	KHz
Efficiency	η	-	TBD	-	%
Output Voltage (no load) (Note 3)	V_{start}	1800	-	-	V
Output Voltage (with lamp)	V_{out}	-	850	-	V
Output Current (per tube)	I_{out}	-	6.0	-	mArms
Enable (pin J1-5)					
Turn-Off Threshold	V_{thoff}	-	-	0.8	V
Turn-On Threshold	V_{thon}	2.0	-	-	V

(Note 1) Reliable and predictable operation of the device are not guaranteed with applied stresses at or beyond those listed in "Absolute Maximum Ratings". Operation at these limits may reduce device reliability and is therefore not recommended. Please refer to "Recommended Operating Conditions" for reliable operation of the device.

(Note 2) Operation above 50°C is possible if airflow is provided.

(Note 3) Provided data is not tested but guaranteed by design.