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# DMA23140

## Specifications and Applications Information

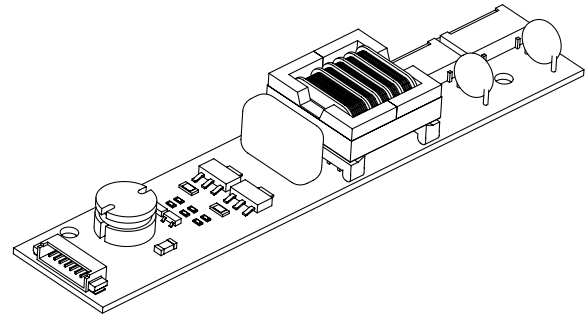
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Preliminary

Two Tube  
 DC to AC Inverter

The ERG DMA23140 (DMA Series) DC to AC inverter features onboard connectors and can be easily dimmed using an external pulse-width modulated control signal.

Powered by a regulated 12 volt DC source the DMA23140 is specially designed to power the Sharp LQ070T5DR01 backlight.

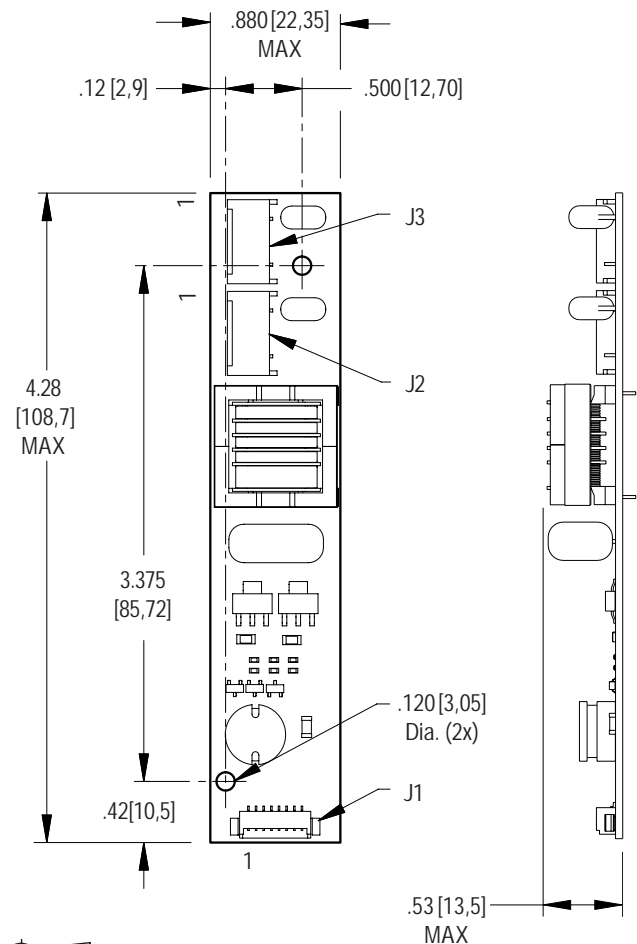


**DMA Package**

### Product Features

- ✓ Small Package Size.
- ✓ High Efficiency
- ✓ Made in U.S.A.

### Package Configuration



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

Weight: 30 grams

### Connectors

**J1 - (Input)**  
 MOLEX  
 532-61-0890

**J2,J3 - (Outputs)**  
 JST  
 SM02(8.0)B-BHS-1-TB

### Pinouts

|      |          |      |            |
|------|----------|------|------------|
| J1-1 | $V_{in}$ | J2-1 | $AC_{out}$ |
| J1-2 | $V_{in}$ | J2-2 | $AC_{com}$ |
| J1-3 | GND      |      |            |
| J1-4 | GND      |      |            |
| J1-5 | Enable   |      |            |
| J1-6 | N/C      | J3-1 | $AC_{out}$ |
| J1-7 | N/C      | J3-2 | $AC_{com}$ |
| J1-8 | N/C      |      |            |



## Absolute Maximum Ratings (Note 1)

| Rating                | Symbol       | Value         | Units |
|-----------------------|--------------|---------------|-------|
| Input Voltage         | $V_{in}$     | -0.3 to +13.2 | Vdc   |
| Enable                | $V_{Enable}$ | -0.3 to +13.2 | Vdc   |
| 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 12.6 | Vdc   |
| Operating Temperature <small>(Note 2)</small> | $T_a$    | 0 to +50      | °C    |

## Electrical Characteristics

Unless otherwise noted  $V_{in} = 12.00$  Volts dc and  $T_a = 25^\circ\text{C}$

| Characteristic                                   | Symbol      | Min  | Typ | Max | Units               |
|--|-------------|------|-----|-----|---------------------|
| Input Current                                    | $I_{in}$    | -    | .49 | .57 | $A_{DC}$            |
| Input Ripple Current                             | $I_{rip}$   | -    | -   | -   | $\text{mA}_{pk-pk}$ |
| Operating Frequency                              | $F_o$       | 34   | 39  | 44  | KHz                 |
| Efficiency                                       | $\eta$      | -    | 74  | -   | %                   |
| Output Voltage (no load) <small>(Note 3)</small> | $V_{start}$ | 1500 | -   | -   | V                   |
| Output Voltage (with lamp)                       | $V_{out}$   | -    | 370 | -   | V                   |
| Output Current (per tube)                        | $I_{out}$   | -    | 5.9 | -   | $\text{mA}_{rms}$   |
| <b>Enable (pin J1-5)</b>                         |             |      |     |     |                     |
| Turn-Off Threshold                               | $V_{thoff}$ | -    | -   | 0.7 | 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.

### 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 should 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.