



# LITEMAX LID10A03

## LED Driving Board

(1st Edition 7/25/2008 )

All information is subject to change without notice.

| Approved by | Checked by | Prepared by |
|-------------|------------|-------------|
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## General

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The LID10A03 is designed to power High White LED Light Bar to a nominal power level of 8W (TYPICAL)

Intensity control (0-100%) is accomplished by the user providing a variable dc level of 0.5V (full-on) to 4.8V (off) at pin7 of J1.

Enable control is accomplished at pin8 of J1 (0V=on,5V=off)

## Specifications:

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- $V_{in}=+10V$  to  $+14V \pm 10\%$
- Constant current and voltage function.
- No load voltage=30V
- LED Light Bar output Voltage=22V(TYPICAL)
- LED Light Bar output current=360mA @100%(TYPICAL)
- Nominal LED Light Bar working frequency=125KHz  $\pm 5KHz$
- Nominal PWM frequency=200Hz  $\pm 10\%$
- PWM duty cycle range=0 to 100%
- Average electrical efficiency > 90%

## LED Application

This specification is applied to LED converter unit for SP1075 LED backlight

### Operating Characteristics

| Item                               | Symbol  | Conditions               | MIN.  | TYP.  | MAX.  | Unit | Remark |
|------------------------------------|---------|--------------------------|-------|-------|-------|------|--------|
| Input Voltage                      | Vin     |                          | 10.0  | 12.0  | 14.0  | V    |        |
| Input Current<br>(Low Brightness)  | IinL    | VIN=12V,Vadj=5V          | 0.0   | ----- | ----- | mA   |        |
| Input Current<br>(High Brightness) | IinH    | VIN=12V,Vadj=0V          | 695   | 710   | 740   | mA   |        |
| LED Current<br>(Low Brightness)    | IoutL   | VIN=12V,Vadj=5V          | 0.0   | ----- | ----- | Arms |        |
| LED Current<br>(High Brightness)   | IoutH   | VIN=12V,Vadj=0V          | 300   | 356   | 430   | mA   |        |
| Working                            | Freq    | VIN=12V,Vadj=0V          | 120   | 125   | 130   | Hz   |        |
| PWM Frequency                      | Freq    | VIN=12V                  | 180   | 200   | 220   | Hz   |        |
| Brightness Control                 | Vadj    | Connection of<br>Voltage | 0.5   | ----- | 4.8   | V    |        |
| ON/OFF Control                     | Von/off | Normal Operation         | 2     | ----- | 5     | V    |        |
| Output Voltage                     | Vout    | VIN=12V,Vadj=0V          | 20.97 | 21.31 | 21.8  | V    |        |
| Efficiency                         | $\eta$  | VIN=12V,Vadj=0V          | 90.52 | 89.1  | 90.5  | %    |        |

### Environment

|                       |            |
|-----------------------|------------|
| Operation Temperature | -20 ~ 70°C |
| Operation Humidity    | % Max.RH   |
| Storage Temperature   | -40 ~ 85°C |
| Storage Humidity      | % Max.RH   |

## Connector Socket

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Input Connector: LJ1 (JST B2B-PH-K-S or Compatible)

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| PIN No | Symbol     | Description                       |
|--------|------------|-----------------------------------|
| 1      | Vin        | DC+12V                            |
| 2      | Vin        | DC+12V                            |
| 3      | Vin        | DC+12V                            |
| 4      | GND        | Ground                            |
| 5      | GND        | Ground                            |
| 6      | GND        | Ground                            |
| 7      | Brightness | Brightness Control 5V~0V          |
| 8      | Control    | ON/OFF Control 0.8V(OFF) 2~5V(ON) |

Output Connector: LJ2, LJ3 (JST S2B-EH or Compatible)

| PIN NO | Symbol | Description           |
|--------|--------|-----------------------|
| 1      | Output | LED High Voltage( + ) |
| 2      | Output | LED Low Voltage ( - ) |

## Mechanical Characteristics

Dimension: 124mm\*50mm\*15mm

**INPUT CONNECTOR**  
 LJ1:  
 PIN1:VIN  
 PIN2:VIN  
 PIN3:VIN  
 PIN4:GND  
 PIN5:GND  
 PIN6:GND  
 PIN7: BRIGHTNESS  
 PIN8: ON/OFF

