



# ENH064V1-800 6.4" VGA AMLCD Display

## *Enhanced Performance for Outdoor Viewability*

The WEDC ENH064V1-800 color TFT LCD provides improved optical performance based on enhancement of a standard Sharp LQ64D343 color active matrix LCD module. The incorporation of an enhanced light guide (ELG) and 4 CCFLs provides over two times the typical luminance of the of the stock display. The ENH064V1-800 is available in two surface treatments – IM/Clear (glossy) or IM/110 (a 10% diffusion).

The enhanced module is composed of a color TFT LCD panel, driver ICs, control circuit and power supply circuit and a backlight unit. Graphics and text can be displayed on a 640 x 480 pixel panel with 262,144 colors by supplying 18-bit data signals (6-bits/color), four timing signals, +5V DC supply voltage for the TFT panel and supply voltage for the backlight. The TFT LCD panel used for this module is a low-reflection and high color saturation type. Viewing angle is 6 o'clock direction. The module offers a wide viewing angle and high brightness (800 cd/m<sup>2</sup> typical). The backlight-driving DC/AC inverter is not built into this module.

WEDC's ENH064V1-800 meets the environmental specifications of the stock Sharp LQ64D343. WEDC provides a full one year warranty to the enhanced performance product.



### **Performance Features**

- VGA 640(H) x 480(V) Resolution
- 800 nit typical Luminance
- TTL Interface
- High Contrast Ratio/High Aperture Ratio
- Higher Brightness per Watt

### **Applications**

- Industrial Automation
- Kiosk Systems
- Marine Navigation
- Instrumentation

### **Product Versions**

- 800 nit – Diffuse front surface, IM/110
- 800 nit – Glossy front surface, IM/Clear

### **Display Characteristics**

- Display Format: 640 Pixels (H) x 480 Pixels (V)
- Active Viewing Area: 130.6mm (H) x 97.0mm (V)
- Pixel Configuration: RGB Vertical Stripe
- Pixel Pitch: 0.204mm (H) x 0.202mm (V)
- Display Mode: Normally White

### **Viewing Angle**

- Typical: 70/70/40/70 CR>5

### **Luminance**

- Typical: 800 cd/m<sup>2</sup>

### **Response Time**

- Typical: Rise 20ms / Fall 40ms

### **Operating Temperature**

- Topa -10°C to +55°C (Ambient)

### **Storage Temperature**

- Tstg -25°C to +70°C

When looking for a high-efficiency enhanced display system to integrate into your high-end product application, start with White Electronic Designs. Our people, processes and products are committed to the design, development and delivery of advanced display technology that expands possibilities in ways that consistently translate to success. And that's just the beginning .... Call **503.690.2460** or visit **www.whiteedc.com**.



**WHITE ELECTRONIC DESIGNS**

#### Display Systems Division

21333 NW Jacobson Road ■ Hillsboro, OR 97124  
Tel: 503.690.2460 ■ Fax: 503.690.2490



## Backlight Specification

The backlight system is an edge-lighting type with 4 CCFLs (Cold Cathode Fluorescent Lamp). The characteristics of the lamp are shown in the following table. The values below are for one CCFL.

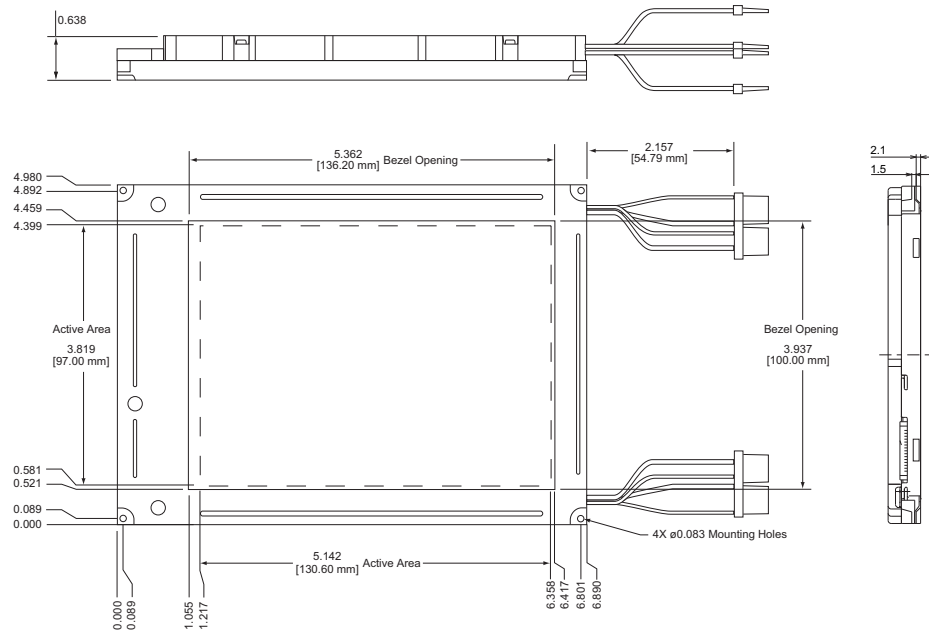
| Parameter              | Symbol         | Min. | Typ.   | Max. | Unit  | Remark                |
|------------------------|----------------|------|--------|------|-------|-----------------------|
| Lamp Current           | I <sub>L</sub> | 2.0  | 5.0    | 6.0  | mArms |                       |
| Lamp Power Consumption | P <sub>L</sub> | -    | 1.7    | -    | W     |                       |
| Lamp Frequency         | F <sub>L</sub> | 20   | 35     | 60   | KHz   |                       |
| Kick-off Voltage       | V <sub>S</sub> | -    | -      | 800  | Vrms  | T <sub>A</sub> = 25°C |
|                        |                | -    | -      | 1000 | Vrms  | T <sub>A</sub> = 0°C  |
| Lamp Life Time         | LL             | -    | 20,000 | -    | Hour  |                       |

## Absolute Maximum Ratings

| Parameter             | Symbol           | Condition             | Ratings                      | Unit | Remark  |
|-----------------------|------------------|-----------------------|------------------------------|------|---------|
| Input Voltage         | V <sub>I</sub>   | T <sub>A</sub> = 25°C | -0.3 ~ V <sub>CC</sub> + 0.3 | V    | Note 1  |
| +5V Supply Voltage    | V <sub>CC</sub>  | T <sub>A</sub> = 25°C | 0 ~ +6                       | V    |         |
| Storage Temperature   | T <sub>STG</sub> | -                     | -25 ~ +70                    | °C   |         |
| Operating Temperature | T <sub>OPA</sub> | -                     | 0 ~ +55                      | °C   | Ambient |

Note 1: Humidity 95% RH Max. (T<sub>A</sub> > 40°C)  
 Maximum wet-bulb temperature at 39°C or less. (T<sub>A</sub> > 40°C)  
 No condensation.

## Mechanical Drawing



## Ordering Information

| Model        | Part Number | Description                              |
|--------------|-------------|--|
| ENH064V1-800 | 100-0013-00 | 800 nit – Glossy front surface, IM/Clear |
|              | 100-0013-01 | 800 nit – Diffuse front surface IM/110   |
|              | 100-0013-02 | 800 nit – No front surface treatment     |

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