



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 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/m2 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/m2

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

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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_L	2.0	5.0	6.0	mAmps	
Lamp Power Consumption	P_L	–	1.7	–	W	
Lamp Frequency	F_L	20	35	60	KHz	
Kick-off Voltage	V_S	–	–	800	Vrms	$T_A = 25^\circ\text{C}$
		–	–	1000	Vrms	$T_A = 0^\circ\text{C}$
Lamp Life Time	LL	–	20,000	–	Hour	

Absolute Maximum Ratings

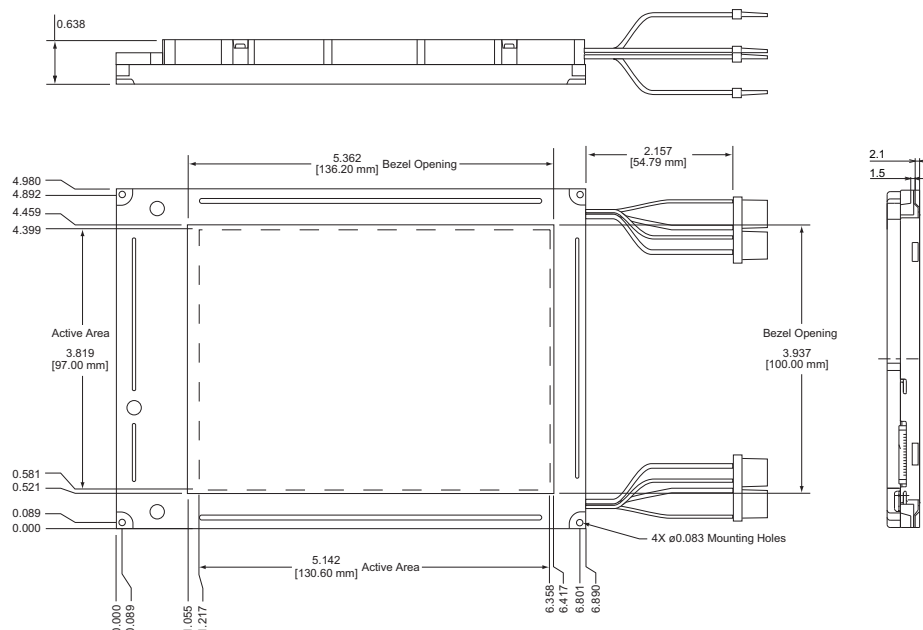
Parameter	Symbol	Condition	Ratings	Unit	Remark
Input Voltage	V_I	$T_A = 25^\circ\text{C}$	$-0.3 \sim V_{CC} + 0.3$	V	Note 1
+5V Supply Voltage	V_{CC}	$T_A = 25^\circ\text{C}$	$0 \sim +6$	V	
Storage Temperature	T_{STG}	–	$-25 \sim +70$	$^\circ\text{C}$	
Operating Temperature	T_{OPA}	–	$0 \sim +55$	$^\circ\text{C}$	Ambient

Note 1: Humidity 95% RH Max. ($T_A > 40^\circ\text{C}$)

Maximum wet-bulb temperature at 39°C or less. ($T_A > 40^\circ\text{C}$)

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

White Electronic Designs (NASDAQ: WEDC) delivers sophisticated multi-chip semiconductor packages, high-efficiency memory devices, enhanced flat panel display systems and build-to-print electromechanical assemblies that address the unique size, performance and quality requirements for technology creators in diverse market segments. Providing advanced embedded component solutions for defense, aerospace, high-performance computing and industrial applications that have specific design and operational requirements has established White Electronic Designs as a trusted resource and valued partner. Headquartered in Phoenix, Arizona, White Electronic Designs operates world-class development and production centers in Arizona, Oregon and China.



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