



Engineering Specification

Type 15.0 XGA Color TFT/LCD Module

Model Name: N150X4-L14

Document Control Number: OEM I-N150X4-L14-01

Note: Specification is subject to change without notice. Consequently it is better to contact International Display Technology before proceeding with the design of your product incorporating this module.

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ii Record of Revision

Date	Document Revision	Page	Summary
December 10, 2003	OEM I-N150X4-L14-01	All	First Edition for customer.



1.0 Handling Precautions

- If any signals or power lines deviate from the power on/off sequence, it may cause shorten the life of the LCD module.
- The LCD panel and the CFL are made of glass and may break or crack if dropped on a hard surface, so please handle them with care.
- CMOS ICs are included in the LCD panel. They should be handled with care, to prevent electrostatic discharge.
- Do not press the reflector sheet at the LCD module to any directions.
- Do not stick the adhesive tape on the reflector sheet at the back of the LCD module.
- Please handle with care when mount in the system cover. Mechanical damage for lamp cable/lamp connector may cause safety problems.
- Small amount of materials having no flammability grade is used in the LCD module. The LCD module should be supplied by power complied with requirements of Limited Power Source (2.5, IEC60950 or UL60950), or be applied exemption conditions of flammability requirements (4.7.3.4, IEC60950 or UL60950) in an end product.
- The LCD module is designed so that the CFL in it is supplied by Limited Current Circuit (2.4, IEC60950 or UL60950).
- The fluorescent lamp in the liquid crystal display(LCD) contains mercury. Do not put it in trash that is disposed of in landfills. Dispose of it as required by local ordinances or regulations.
- Never apply detergent or other liquid directly to the screen.
- Wipe off water drop immediately. Long contact with water may cause discoloration or spots.
- When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth; do not use solvents or abrasives.
- Do not touch the front screen surface in your system, even bezel.
- Gently wipe the covers and the screen with a soft cloth.

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2.0 General Description

This specification applies to the Type 15.0 Color TFT/LCD Module 'N150X4-L14'.

This module is designed for a display unit of a notebook style personal computer.

The screen format and electrical interface are intended to support the XGA (1024(H) x 768(V)) screen.

Support color is native 262k colors (RGB 6-bit data driver).

All input signals are LVDS (Low Voltage Differential Signaling) interface compatible.

This module does not contain an inverter card for backlight.

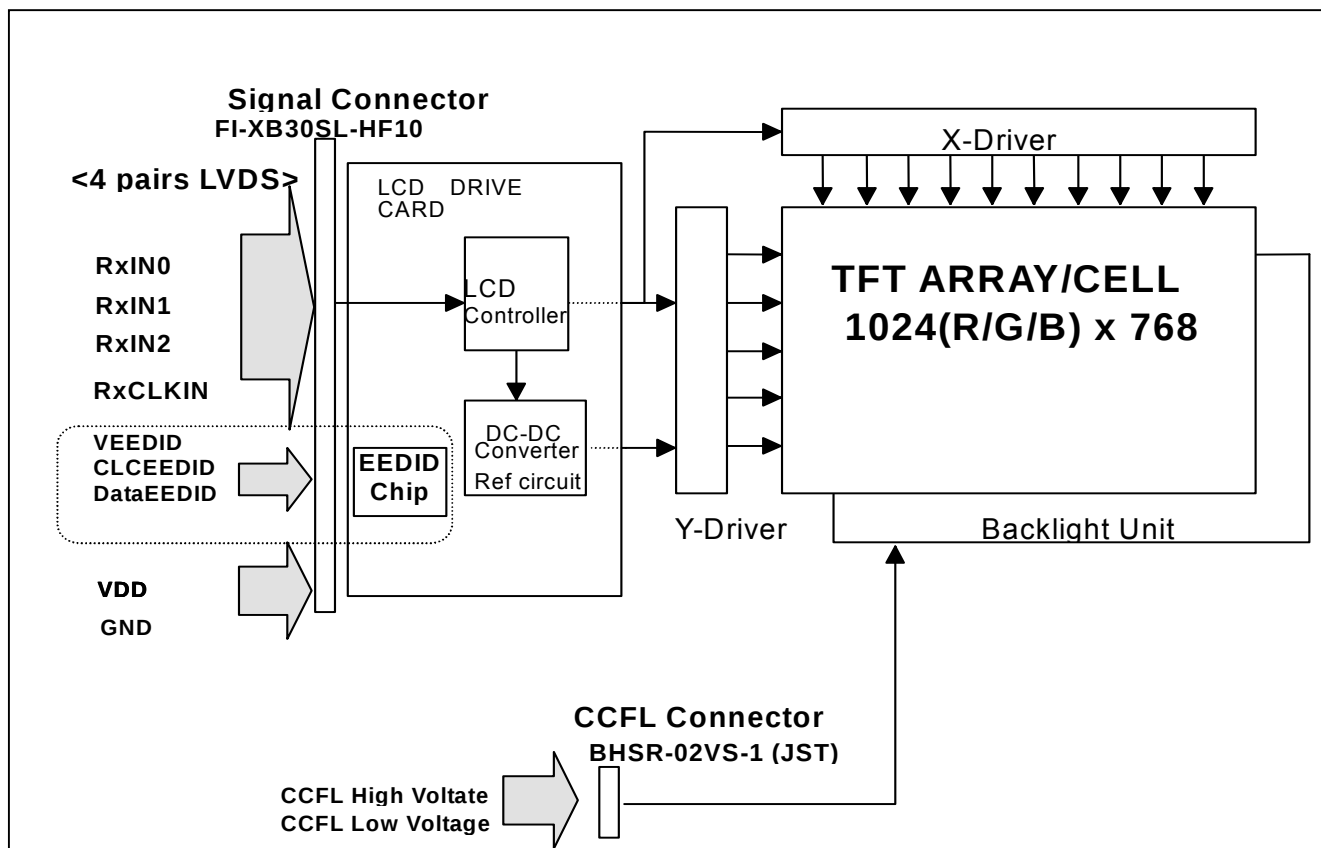
2.1 Characteristics

The following items are characteristics summary on the table under 25 degree C condition:

CHARACTERISTICS ITEMS	SPECIFICATIONS
Screen Diagonal [cm]	38
Active Area [mm]	304.128(H) x 228.096(V)
Pixels H x V [pixels]	1024(x3) x 768
Pixel Pitch [mm]	0.297(per one triad) x 0.297
Pixel Arrangement	R.G.B. Vertical Stripe
Display Mode	Normally Black
Display Surface Treatment	Hard Coat only (No Anti-Glare Treatment)
White Luminance [cd/m ²]	250 Typ. (Screen Center, ICFL = 6.5mA)
Contrast Ratio	400 : 1 Typ. 300:1 Min
Viewing Angle	CR>=10:1 H: +/-85 deg., V: +/-85 deg. Typ. CR>=100:1 H: +/-40 deg., V: +/-40 deg. Typ.
Color Chromaticity	x:0.313 +/-0.030, y:0.329 +/- 0.030
Optical Rise + Fall Time	60msec Typ.; 120ms Max. (@25degC)
Nominal Input Voltage [VDD]	+3.3 V
Logic Power Consumption [watt]	1.6 Typ. (All White Pattern), 2.2 Max (worst pattern)
CFL Power Consumption [watt]	4.1Typ.(@ICFL=6.5mA)
Weight [grams]	588 Max.
Physical Size [mm]	317.3(W) x 242.0(H) x 6.2(D) Typ.
Electrical Interface	4 pairs LVDS (single channel)
Support Color	Native 262K colors (RGB 6-bit data driver)
Temperature Range [deg. C]	0 to +50 (Operating) -20 to +60 (Storage, Shipping)
CFL cable length [mm]	100 Typ

2.2 Functional Block Diagram

The following diagram shows the functional block of the Type 15.0 Color TFT/LCD Module.



3.0 Absolute Maximum Ratings

Absolute maximum ratings of the module is as follows:

Item	Symbol	Min	Max	Unit	Conditions
Supply Voltage	VDD	-0.3	+4.0	V	
Input Voltage of Signal	Other Inputs	-0.3	VDD+0.3	V	
Lamp Ignition Voltage	Vinv	-	2,000	Vrms	
CFL Current	ICFL	-	7	mArms	
CFL Peak Inrush Current	ICFLP	-	20mA / 50ms		A single pulse
Operating Temperature	TOP	0	+50	deg.C	(Note 1)
Operating Relative Humidity	HOP	8	95	%RH	(Note 1)
Storage Temperature	TST	-20	+60	deg.C	(Note 1)
Storage Relative Humidity	HST	5	95	%RH	(Note 1)
Vibration			1.5 10-200	G Hz	
Shock			50 11	G ms	Rectangle wave

Note1: Maximum Wet-Bulb should be 39 degree C and No condensation.

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