

**PART DESCRIPTION:** Display, 800 X 600 resolution (SVGA), 10.4" Active Matrix TFT LCD.

Backlight system	CCFL side-light (vertical single lamp)
Polarizer	Non-Glare treatment.

**FEATURES:**

- Clear 256 K colors
- Fast response and light weight design.
- LVDS Interface

**MECHANICAL REQUIREMENT:**

Mechanical Specification:

ITEM	SPECIFICATION	UNIT
OUTLINE Dimensions	236.85(W) X 168.6(H) X 8.6 (Max)	mm
Viewing Area	215.2(W) X 162.4(H)	mm
Active Area	211.2(W) X 158.4(H)	mm
Pixel Number	800(W) X 600(H)	Dots
Pixel Pitch	0.264(W) X 0.264(H)	mm
Weight	380	gm

Dimensions: See Figure 1.

**INTERFACE DEFINITION:**

LCD Connector:

LCD Connector Type:	53779-1410 (MOLEX)
Mating Connector Type:	51146-1400 (MOLEX)

1st floor

## Interface Signal Definitions:

PIN NO.	SYMBOL	FUNCTION
1	VDD	Power Supply: +5V
2	VDD	Power Supply: +5V
3	GND	
4	GND	
5	RIN0 -	Transmission Data of Pixels 0 (Negative: -)
6	RIN0 +	Transmission Data of Pixels 0 (Positive: +)
7	RIN1 -	Transmission Data of Pixels 1 (Negative: -)
8	RIN1 +	Transmission Data of Pixels 1 (Positive: +)
9	RIN2 -	Transmission Data of Pixels 2 (Negative: -)
10	RIN2 +	Transmission Data of Pixels 2 (Positive: +)
11	RCLK IN -	Sampling Clock of Pixels 1 (Negative: -)
12	RCLK IN +	Sampling Clock of Pixels 1 (Positive: +)
13	GND	
14	GND	

## CCFL Power Source:

Terminal No.	Symbol	Function
1	VL	CCFL POWER SUPPLY (HIGH VOLTAGE)
2	GL	CCFL POWER SUPPLY (GND SIDE)

CCFL Power Supply Connector	Part Number
JAE	HV-2S-CIC3
Mating JAE	HV-2S-HF

## ELECTRICAL REQUIREMENT:

## Absolute Maximum Ratings:

Item	Symbol	Min.	Max.	Unit
Supply Voltage	$V_{DD}$	-0.3	+7.0	V
Input Voltage of Signals	$V_{IN}$	-0.3	$V_{DD} + 0.3$	V
FL Driving Voltage	$V_{FL}$	-	2	kV <sub>rms</sub>
FL Driving Frequency	$f_{FL}$	0	100	kHz
Operating Ambient Temperature	$T_{Op}$	0	+50	°C
Operating Ambient Humidity	$H_{Op}$	10	90	%RH
Storage Temperature	$T_{STG}$	-20	+60	°C
Storage Humidity	$H_{STG}$	10	90	%RH
Operating Temperature for Panel	-	0	+60	°C

## Recommended Operating Conditions

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	$V_{DD}$	4.75	5.00	5.25	V
"H" Level Input	$V_{IH}$	2.2	-	$V_{DD}$	V
"L" Level Input	$V_{IL}$	0	-	0.8	V
FL Input Current*	$I_{FL}$	3.0	3.4	6.0	mA Arms
FL Driving Voltage	$V_{FL}$	380	430	480	V rms
FL Driving Frequency	$f_{FL}$	30	50	60	kHz
FL Starting Voltage	$V_{sFL}$	900	-	-	V rms

\*If FL input current ( $I_{FL}$ ) is higher than typical value (3.4mA Arms), then FL lifetime becomes shorter.

Optical Characteristics: ( $T_a = 25^\circ\text{C}$ ).

Item	Min.	Typ.	Max.	Unit
Contrast Ratio	(CR) 100	-	-	-
Response Time	(ton)	-	50	ms
	(toff)	-	50	ms
Luminance	(L) 55	70	120	cd/m <sup>2</sup>
Viewing Angle	( $\theta$ ) 10	-	30	deg.

**ENVIRONMENTAL REQUIREMENTS: See 4.1.****SAFETY REQUIREMENTS:**

Display printed circuit flex to be U. L. recognized under section ZMP V2 of U. L. recognized component directory and marked with company name or trademark and type designation. Display U. L. flammability classification 94V-1 or better. Protection from ESD required.

**CAUTION AND HANDLING PRECAUTIONS:**

Disconnect power supply before handling LCD module.  
Do not disassemble or modify the module.  
Do not ingest liquid crystal material. If glass breaks and the liquid crystal comes in contact with the eyes or mouth, rinse mouth or eyes out with water immediately.  
Be careful with broken chips of glass that may cause injury.  
Do not exceed the absolute maximum rated values as LCD module may be damaged.  
When disposing the LCD module, obey the applicable environmental regulations.  
Make sure to insert the module fluorescent lamp connector to the inverter connector in the correct position. Incorrect positioning may cause fire and damage to the LCD module.  
Handle the LCD module with care. The C-MOS LSIs used are very sensitive to ESD.  
Reduce dust level in work area by using finger stalls or soft and dust-free gloves.  
When removing the protective film from the LCD panel, peel off the film slowly (more than three seconds) from the edge of the panel to minimize ESD. Use soft-pointed tweezers covered by teflon or adherent tape.  
To clean LCD panel, wipe the surface with clean absorbent cotton or other soft cloth.

Do not apply any mechanical forces like drops or vibration without appropriate protection around the LCD module. Avoid twisting the module.

Do not store LCD module in high temperature or high humidity for a long period of time (more than a month). Recommended storage conditions are a temperature of 0 to 35°C and a relative humidity of less than 70%.

Store the LCD away from direct sunlight.

Avoid condensation of water on the LCD module as this may cause mis-operation or defects.

**MARKING REQUIREMENTS:**

The bulk shipping container shall be marked with the manufacturer's name, manufacturer's part number and lot code.

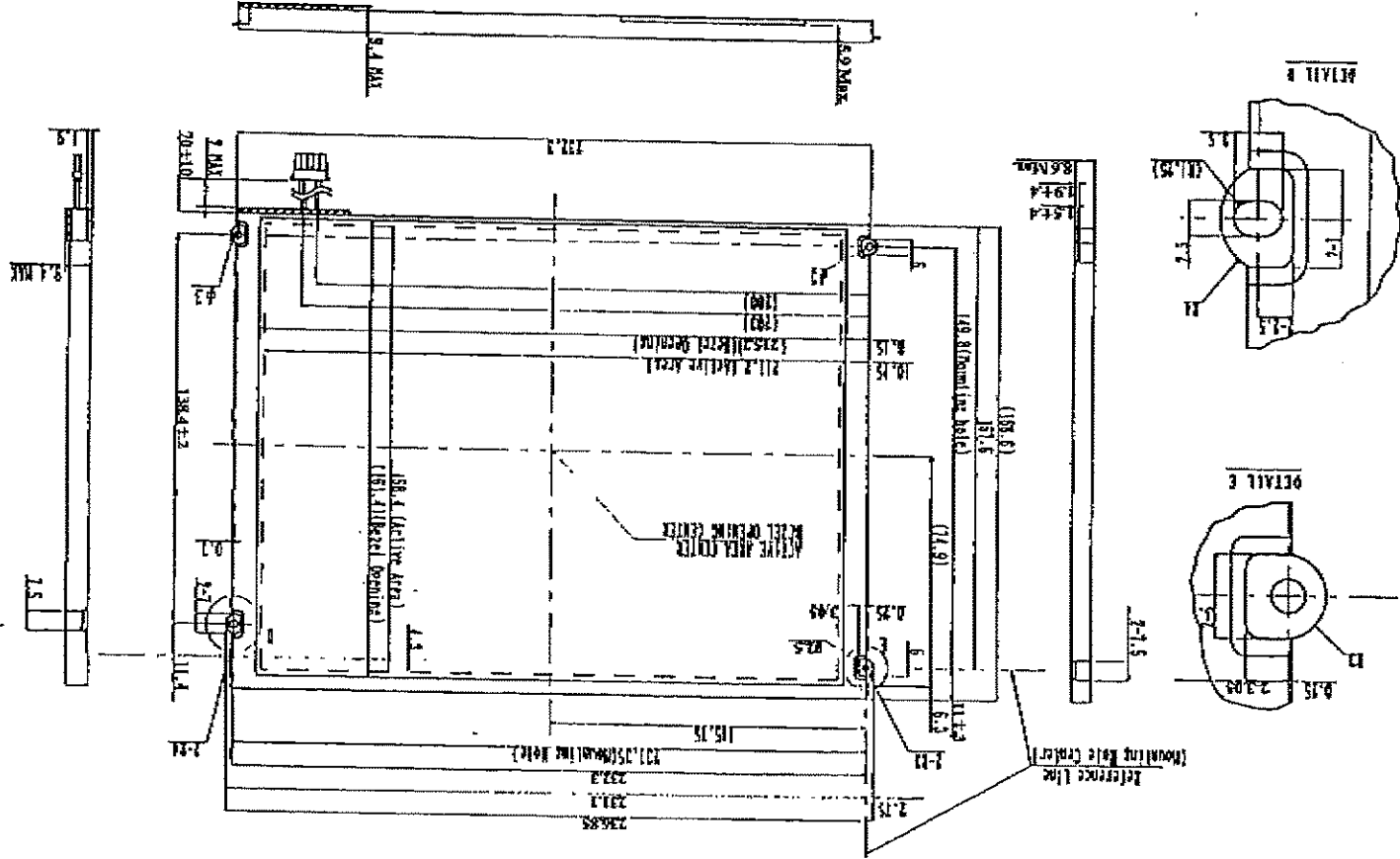
**ACCEPTABILITY REQUIREMENTS:**

Inspection per established receiving requirements.

**MANUFACTURER AND PART NUMBER:**

YTRONIX P/N	MANUFACTURER	MANUFACTURER'S P/N
46-0031-001	TOSHIBA	LTM10C272S

Unit : mm  
Standard Tolerance : 0.5



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FIGURE 1.1: DIMENSIONS (FRONT VIEW)

