

- 1.0 **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

- 2.0 **MECHANICAL REQUIREMENT:**

- 2.1 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

- 2.2 Dimensions: See Figure 1.

- 3.0 **INTERFACE DEFINITION:**

- 3.1 LCD Connector:

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

3.2 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 Date of Pixels 2 (Negative: -)
10	RIN2 +	Transmission Date 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	

3.3 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-C1C3
Mating JAE	HV-2S-HF

4.0 ELECTRICAL REQUIREMENT:

4.1 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_{rms}
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

4.2 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 _{rms}
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_{rms}), then FL lifetime becomes shorter.

4.3 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 ²
Viewing Angle (θ)	10	-	30	deg.

5.0 ENVIRONMENTAL REQUIREMENTS: See 4.1.

6.0 SAFETY REQUIREMENTS:

- 6.1 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.
- 6.2 Display U. L. flammability classification 94V-1 or better.
- 6.3 Protection from ESD required.

7.0 CAUTION AND HANDLING PRECAUTIONS:

- 7.1 Disconnect power supply before handling LCD module.
- 7.2 Do not disassemble or modify the module.
- 7.3 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.
- 7.4 Be careful with broken chips of glass that may cause injury.
- 7.5 Do not exceed the absolute maximum rated values as LCD module may be damaged.
- 7.6 When disposing the LCD module, obey the applicable environmental regulations.
- 7.7 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.
- 7.8 Handle the LCD module with care. The C-MOS LSIs used are very sensitive to ESD.
- 7.9 Reduce dust level in work area by using finger stalls or soft and dust-free gloves.
- 7.10 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.
- 7.11 To clean LCD panel, wipe the surface with clean absorbent cotton or other soft cloth.

- 7.12 Do not apply any mechanical forces like drops or vibration without appropriate protection around the LCD module. Avoid twisting the module.
- 7.13 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%.
- 7.14 Store the LCD away from direct sunlight.
- 7.15 Avoid condensation of water on the LCD module as this may cause mis-operation or defects.

8.0 MARKING REQUIREMENTS:

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

9.0 ACCEPTABILITY REQUIREMENTS:

Inspection per established receiving requirements.

10.0 MANUFACTURER AND PART NUMBER:

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

(Back Figure)

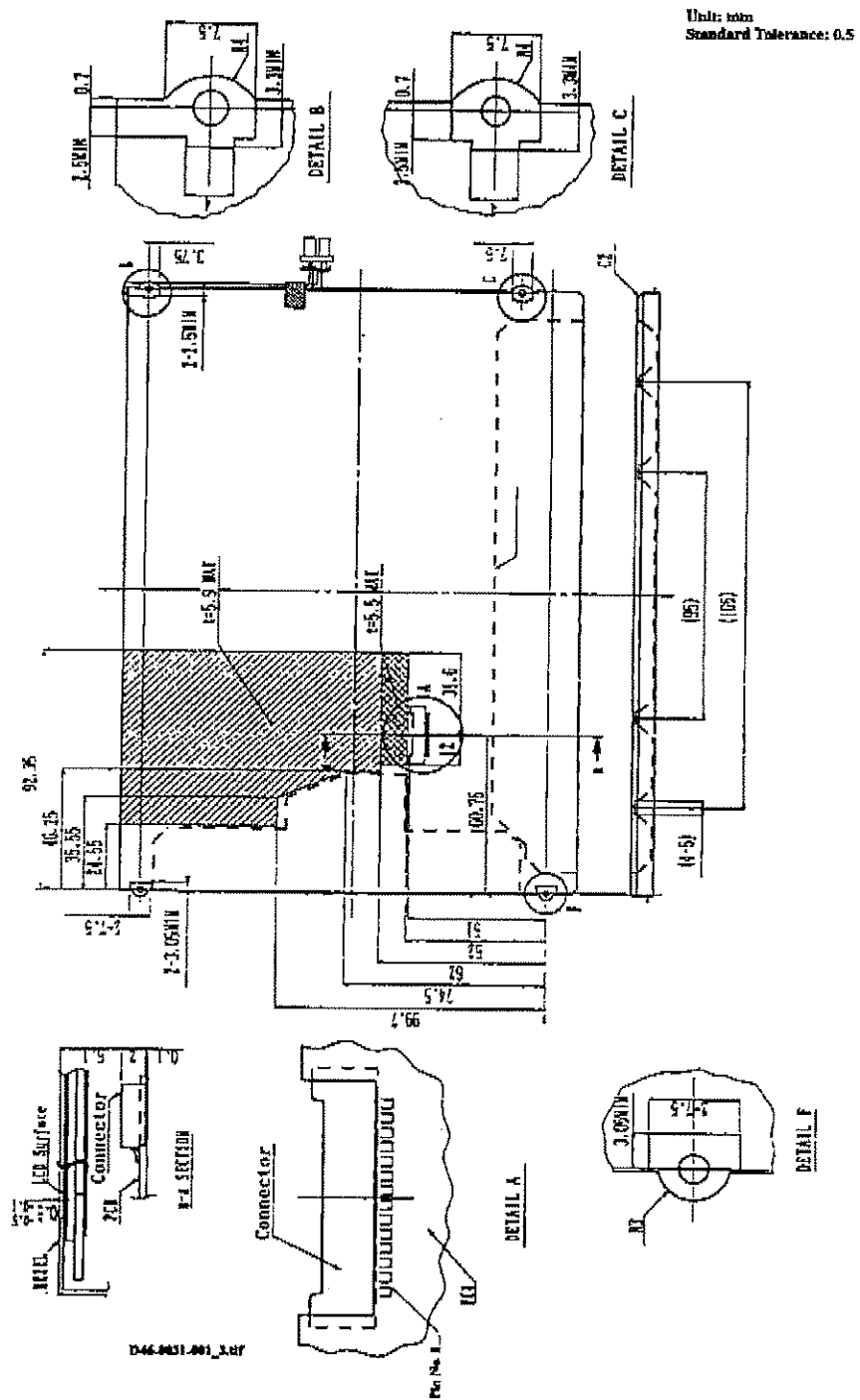


FIGURE 1.2: DIMENSIONS (REAR VIEW)