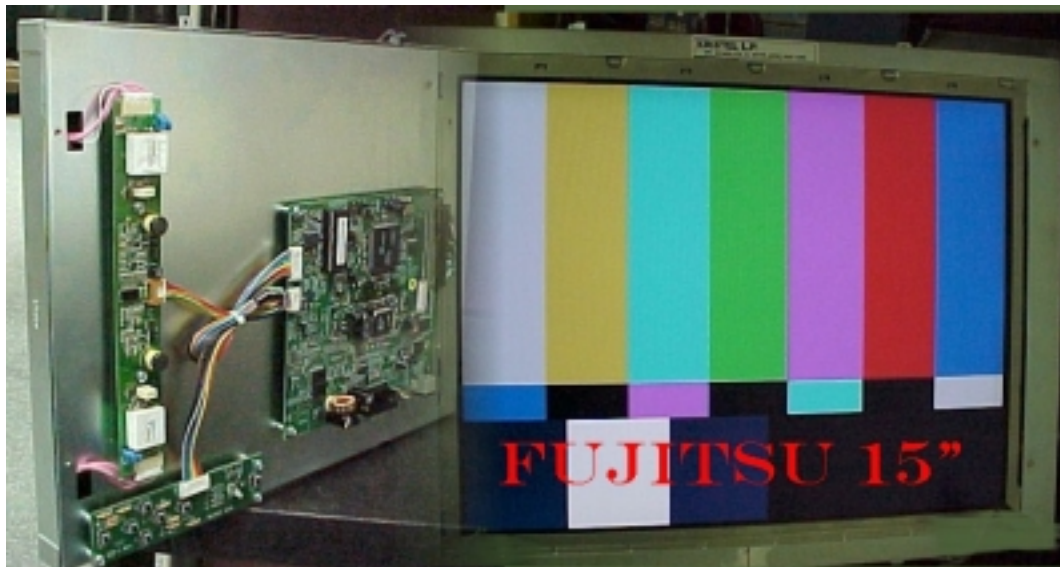


Liquid Crystal Monitors OEM - Custom

INDUSTRIAL

CONSUMER



TECHNICAL SPECIFICATIONS

2000

KRISTEL

KRISTEL LCD CONTROLLER BOARD SPEC. and LCD panel spec. 15”

1. Support TFT LCD Panel

XGA 1024 x 768

SVGA 800 x 600

VGA 640 x 480

2. Optional: Video Input Support Pal & NTSC standard

3. Support PC Timing:

MODE	RESOLUTION	H Freq (kHz)	VFreq (Hz)
0	640 x 480	31.469	70.087
1	640 x 400	24.823	56.416
2	640 x 400	31.469	70.087
3	640 x 480	31.469	59.940
4	640 x 480	35.000	66.667
5	640 x 480	37.861	72.809
6	640 x 480	37.500	75.000
7	640 x 480	43.269	85.008
8	720 x 400	31.469	70.087
9	720 x 400	37.927	85.039
10	800 x 600	35.156	56.250
11	800 x 600	37.879	60.317
12	800 x 600	48.077	72.317
13	800 x 600	46.875	75.000
14	800 x 600	53.674	85.061
15	832 x 624	49.107	75.087
16	1024 x 768	48.363	60.004
17	1024 x 768	56.476	70.069
18	1024 x 768	58.038	71.918
19	1024 x 768	60.023	75.029
20	1024 x 768	68.667	84.997
21	1024 x 768	60.241	75.020

4. Panel compatibility: Compatible with XGA, SVGA, VGA resolution TFT LCD panel from various panel manufactures / by changing some jumpers setting and a specified BIOS /

5. No. of color: Up to 8 bits per color, total 16.7 million colors

6. Vertical refresh rate: VGA, SVGA, and XGA VESA standard up to 85 Hz.

7. Standard input source: VGA analog (15pin D-SUB) standard, automatic detection of separate sync, composite sync, and sync on green. Optional PAL and NTSC standard .

8. Dot clock (pixel clock) maximum: 100 MHz.

9. Control available via OSD pattern (key pad):

- On / Off
- OSD menu select
- Icon down
- Icon up
- Adjust +
- Adjust -
- OSD exit

10. Board dimension (AD): 160mm x 147 mm

11. Power consumption at normal mode (not included Inverter and panel consumption): 2.64 W

12. Voltage for LCD panel: 5VDC or 3.3VDC

13. Input voltage +12VDC (3A to DC adapter suggested)

14. Storage temperature limits: -40°C to 70°C

15. Operating temperature limits 0°C to 60°C

CONNECTORS, PINOUTS & JUMPERS

PANEL: Samsung, LT150X1-151 J4 , 5.0 volt setting (short pin2 and pin3)

J16 Pin7 and pin8 short, other pins leave open

Fujitsu, FLC38XGC6V-04 J4, 5.0 volt setting (as above)

J16, Pin5 and pin6 short, other pins leave open

LG LM151X2 J4, 3.3 volt setting

J16, All pins leave open

17. JP1 panel connector, 2.0mm dual line up (60 pins)

LCD Module:

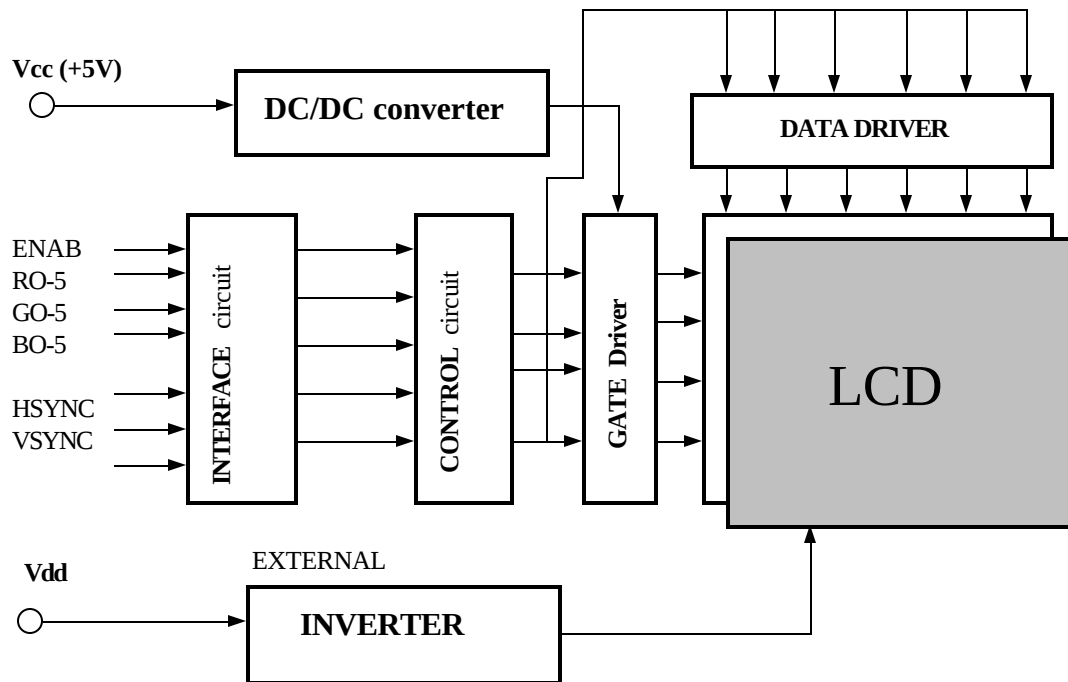
Fujitsu, active matrix type liquid crystal panel 1024 x 768 pixels, and diagonal size of 38 cm (15.0-inch). this module supports 1024 x 768 XGA mode (none-interlace).

This LCD module consists of a LCD panel, LCD driving circuit, control circuit, interface circuit and backlight unit.

The LCD panel is active matrix TFT type and Fujitsu's unique Multi-domain Vertical Alignment (MVA) technology is adopted in it.

The control circuit and the interface circuit are mounted on three kinds of printed circuit board (hereinafter PCB) and the input of the TAB driver-ICs are connected to the PCBs. With such circuit construction, the image data received by the interface circuit is forwarded to the control circuit and the control circuit modulates the image data to LCD driving signal. The TAB driver ICs buffer the LCD driving signals and output driving voltages to the LCD panel. These LCD parts such as the LCD panel, TAB-IC's and the PCBs are assembled together with the backlight module in a plastic case and a metal frame.

Block Diagram LCD module.



ELECTRICAL Specs:

Supply current: [I_{cc}] V_{cc}= +5.0+/-0.25V
DCLK=32.505MHz . Typical 320mA, Max.700mA

Backlight: [V_s] f_L=50kHz Typical 1324 Vrms, Max. 1500 Vrms
Lighting Voltage [V_L] Typical 580 Vrms, Max. 610 Vrms

Lighting Frequency [f_L] Typical 50kHz, Max. 60kHz
Tube Current [I_L] f_L=50kHz, V_L=580 Vrms Typical 7mA, Max. 8mA

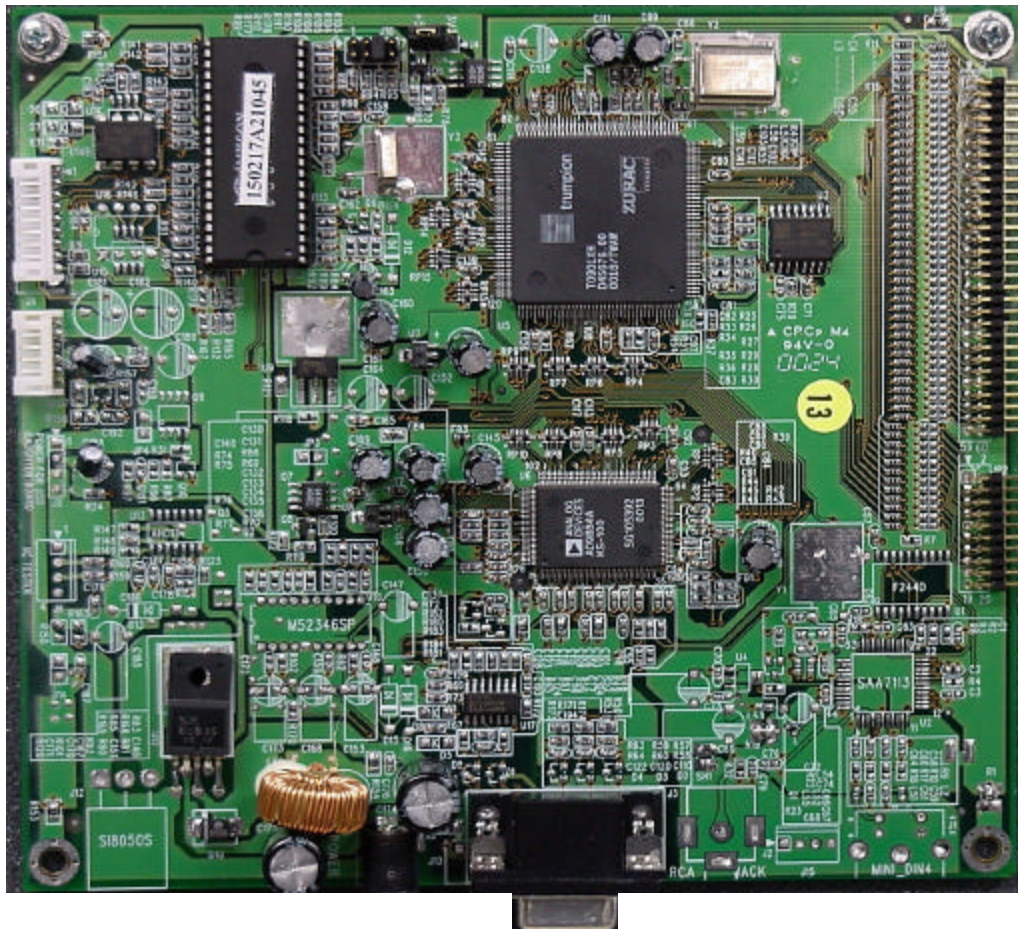
15.0-Inch Active Matrix TFT - LCD

ITEM	FLC38XGC6V-05
Pixel Pitch	0.297(H) x 0.297(V) mm
Response Time	25 ms (include Rise and Fall)
Contrast	300:1 Typical
Brightness	250 cd/m ²
Viewing Angle	Vertical: 160°, Horizontal: 160° Typ.
Color Depth	262,144 Colors (18-Bit)
Dimensions	347.3(W) x 263.5(H) x 15.8(D)mm
Interface	CMOS (Dig.RGB)

CCFL Supplier: SANKEN ELECTRIC CO Ltd. Part No. KFN8319315296Z

LIFE: The life of the backlight is a minimum of 50,000 hours in working condition
(Ambient temp: 25+/-5° C and tube current (I_L) : 7mA or less)

K R I S T E L Liquid Crystal Displays OEM - 15.0-inch
Analog Interface CARD Specifications



- Support and compatible with XGA, SVGA, VGA resolution TFT panel from various panel manufactures.
- Support 21 PC Timing Modes
- Analog RGB Signal Input
- Automatic Mode detection from VGA to XGA
- Provide 16.7 million colors for TFT panels
- Refresh rates up to 85HZ
- Flicker-Free, Sharp image/Text Data
- User-Friendly on Screen Display Menu to control Images
- Optional video In PAL / NTSC standard

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