AND-TFT-64MQ*

320 x 234 Pixels
LCD Color Monitor

The AND-TFT-64MQ is a compact full color TFT LCD module, that is suitable for applications such as a portable television (PAL and NTSC) and a display for monitors. This device consists of a twisted nematic (TN) liquid crystal cell, that incorporates a TFT-array that has 320 x 234 pixels on a 6 inch diagonal screen, X and Y drivers, an LSI controller, and a built-in CCFL backlight and inverter.

***ALSO AVAILABLE:**
AND-TFT-64MQ-DHB (high bright backlight installed)

Features

- NTSC composite (1.0Vp-p) input
- 6.4 inch (16 cm) diagonal screen
- High brightness CCFL backlight (300 Nits)
- Built-in CCFL inverter
- Operating temperature range -10 to 60° C
- Storage temperature range -30 to 80° C
- 12V single power supply
- 6 o'clock viewing angle

Mechanical Characteristics

Item	Specification	Unit
Screen Size	6.4 inch (16 cm) diagonal	
Outline Dimensions	156.3 typ. (W) x 119.8 (H) x 20 max. (D)	mm
Active Area	130.6 (W) x 97.3 (H)	mm
Drive System	a-Si TFT Active matrix, a line at a time Non-Interlace Drive	
Pixel Number (RGB trio)	320 (W) x 234 (H)	–
Sub Pixel No.	960 (W) x 234 (H)	–
Sub Pixel Arrangement	RGB stripe	–
Pixel Pitch	0.416 (W) x 0.416 (H)	mm

Absolute Maximum Rating

Item			Symbol	Conditions	Absolute Maximum Rating		Unit
					Min.	Max.	
Supply Voltage	for Video Circuit		VCC	Ta = 25°C	VSS -0.2	13.0	V
	for Backlight Inverter		VBL	Ta = 25°C	VSS -0.2	13.0	V
Input Signal Voltage	Video	Composite	CVID	Ta = 25°C, VCC = 12V VBL = 12V	–	1.5	Vp-p
	Composite sync.		CSYNC		–	1.5	Vp-p
	Others		BRT, CONTRAST, COLOR		VSS -0.2	VDD +0.2	V
Operating Temperature			Top	–	-10	60	°C
Storage Temperature			Tstg	–	-30	80	°C
Humidity (No condensation of water)			–	–	10	90	% RH

Electrical Specification

Item		Symbol	Conditions	Specifications			Units
				Min.	Typ.	Max.	
Current Consumption	for Video Circuit	ICC	–	–	0.19	0.30	A
	for Backlight Inverter	IBL	+12V, DIM = Max.	–	0.37	0.50	A
Output Voltage		VDD	VCC = VBL = +12V	4.8	5.0	–	V
Vertical display start		Vpos	NTSC (59.94Hz)	–	19	–	H
Vertical display term		Vdis	NTSC (59.94Hz)	–	253	–	H
Horizontal display		Hpos	NTSC (15.73kHz)	–	12.6	–	µs
Horizontal display term		Hdis	NTSC (15.73kHz)	–	63.39	–	µs

(Ta = RT, VSS = 0V)

Recommended Operating Conditions

Item			Symbol	Conditions	Specifications			Unit
					Min.	Typ.	Max.	
Supply Voltage	for Video Circuit		VCC	–	10.0	12.0	13.0	V
	for Backlight Inverter		VBL	–	10.0	12.0	13.0	V
Input Signal Voltage	Video	Composite	CVID	75Ω	–	1.0	–	Vp-p
	Composite sync.		CSYNC	75Ω	–	1.0	–	Vp-p
	Others		BRT, CONTRAST, COLOR,		0		+5.0	V
Frame Frequency			fVDN	NTSC	58	59.94	62	Hz
			fHDN		15.2	15.73	16.2	kHz
Color Sub-carrier Frequency			fCOLOR	NTSC	3.579395	3.579545	3.579695	MHz
Color Sub-carrier Amplitude			VCOLOR	NTSC	40	–	–	mV

Optical Specifications

Item	Symbol	Conditions	Specifications			Unit
			Min.	Typ.	Max.	
Luminance	LUM	RGB = 0/0.7V	250	300	–	cd/m
Contrast Ratio	CR	RGB = 0/0.7V	80	120	–	–
Specular Reflectance	RS		–	6	–	%
Viewing Angle	ϕ L/ ϕ R	RGB = 0/0.7V	–	60/60	–	deg
	ϕ U/ ϕ D		–	15/35	–	deg

Interface Pin Assignment Connector 1: Connector (Elco) 6200-500-10-800

Pin No.	Symbol	Function	Input/Output
1	VDD	+5V Output for Control Signal	Output
2	COLOR	Color Purity Control 0 to 5V	Input
3	BRT	Brightness Control 0 to 5V	Input
4	CONT	Contrast Controls 0 to 5V	Input
5	VIDEO	Composite Input 1.0Vp-p, 75 Ω	Input
6	VGND	Video Ground	–
7	GND	Ground	–
8	GND	Ground	–
9	VCC	Power Supply +12V	Input
10	VCC	Power Supply +12V	Input

Dimensional Outline