



## 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.

#### 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	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

