AND-TFT-35TS
3.5" TFT LCD
LCD Color Monitor

The AND-TFT-35TS is a compact full color TFT LCD module, that is suitable for security, video games, door phones, video phones, portable TV and instrument displays. This device consists of a twisted nematic (TN) liquid crystal cell, that incorporates a TFT-array that has 480 x 234 pixels on a 3.5 inch diagonal screen, X and Y drivers, an LSI controller, and a built-in CCFL backlight.

Features

· No controller chip is necessary

· Ultra compact

· Compatible with NTSC system

· DC/DC DC/AC Video decoder all in one

· High Resolution: 112,320 Dots (480 x 234)

· Optimum viewing direction: 6 o'clock

· Up/Down and Left/Right image inversion

· Single operation voltage 12V

Mechanical Characteristics

Item	Specification	Unit
Screen Size	3.5 inch diagonal	inch
Outline Dimensions	83.7 (W) x 68.6 (H) x 6.6 (D)	mm
Active Area	71.6 (W) x 52.65 (H)	mm
Input Signal	NTSC	–
Pixel Number (RGB trio)	480 (W) x 234 (H)	–
Sub Pixel No.	480 (W) x 234 (H)	–
Sub Pixel Arrangement	Delta	–
Dot Pitch	0.149 (W) x 0.225 (H)	mm
Weight	TBD	g

Absolute Maximum Rating

Item	Symbol	Conditions	Absolute Maximum Rating		Unit
			Min.	Max.	
Supply Voltage for Source Driver	Vin	Ta = 25°C	+10	+14	V
Storage Temperature	–	–	-20	+70	°C
Operation Temperature	–	–	-10	+60	°C

Product specifications contained herein may be changed without prior notice.
It is therefore advisable to contact Purdy Electronics before proceeding with the design of equipment incorporating this product.

Power Consumption

Item	Symbol	Conditions	Min.	Typ.	Max.	Units
				Specifications		
Supply Current for DC-DC Converter	Vin	Vin = +12V	–	300	400	mA
Total Power Consumption	–	–	–	3.6	4.8	W

(Ta =25°C)

Recommended Operating Conditions (Ta = 25°C)

Item	Symbol	Remarks	Min.	Typ.	Max.	Unit
Supply Voltage for DC-DC Converter	V_P		+11	+12	+13	V
Lamp Voltage	$V_L 1$		–	+265	+300	Vrms
Lamp Current	$I_L 1$		+2.5	+3	+3.5	mA
Lamp Frequence	P_L	Note 1	+25	+35	+60	KHz

Note 1: Low voltage side of backlight inverter connects with Ground of inverter circuits.

Optical Specifications

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Viewing Angle	Horizontal	θ	CR≥10	± 45	± 50	–	deg
	Vertical	θ (to 12 o'clock)		10	15	–	
		θ (to 6 o'clock)		30	35	–	
Contrast Ratio Luminance when LCD is White Luminance when LCD is Black		CR	At optimized viewing angle	110	150	–	–
Response Time	Rise	Tr	$\theta =0°$	–	15	30	ms
	Fall	Tf	$\phi =0°$	–	25	50	
Transmission	Ratio	T	–	7.5	8.0	8.5	%
Uniformity		U	–	65	70	–	–
Brightness		LUM	–	200	250	–	cd/m^2
White Chromaticity		X	$\theta =0°$	0.280	0.310	0.340	–
		Y		0.310	0.340	0.370	
		Tc		6650	6850	7050	
Lamp Life Time	+25°C	–	–	10,000	–	–	hr

Block Diagram
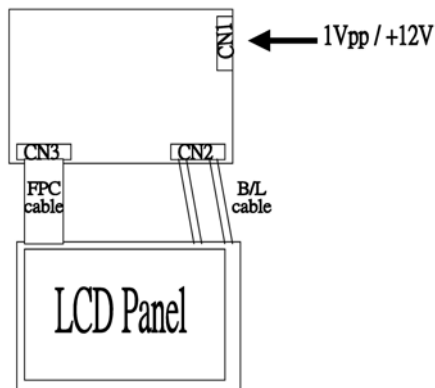
Interface Pin Assignment - Connect to Decoder (CN1)

Pin No.	Symbol	Function	Input/Output	Remark
1	Vin	+12V power input	Input	
2	GND	Power ground	Input	
3	GND	Power ground	Input	
4	GND	Video signal ground	Input	
5	Video	Composite video signal input	Input	
6	+3.3V	For pin 7/8/9/10 control purpose	Output	
7	Brightness	Brightness controll voltage input	Input	
8	Contrast	Contrast control voltage input	Input	
9	Color	Color control voltage input	Input	
10	Tint	Tint control voltage input	Input	
11	N.C.	No connection	NC	Only for NTSC
12	R/L	Picture left/right inverse control	Input	Note 1
13	U/D	Picture up/down inverse control	Input	Note 2
14	GND	Ground	Input	
15	Lamp CTL	Lamp on/off control. 0V on, 5V off.	Input	

Note 1: R/L - Hi (+5V) for shift right, Low (GND) for shift left

Note 2: U/D = Hi(+5V) for down, Low (GND) for up.

Connect to Backlight (CN2)

Pin No.	Symbol	Function	Input/Output
1	HV	Lamp driving terminal (high voltage)	Output
2	LV	Lamp driving terminal (low voltage)	Output

Connect to Panel (CN3)
Shows in the Reference

Connector

Connector No.	CN1	CN2	CN3
Model No.	SGMX-H-125-15	SJST-B-800-02T	AF430J-A2G1T
Maker	–	–	T-TWO
Pins	15	2	30
Pitch	1.25mm	8mm	0.5mm

Dimensional Outline

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Dimensional Outline