AND-TFT-56LP-KIT

5.6" TFT LCD
aSi LCD Color Module

The AND-TFT-56LP is a compact full color TFT LCD module, that is suitable for portable products, industrial products, hand-held products, security products, instrument displays and office electronics.

Features

- 640 (RGB) x 480 Resolution
- a-Si Technology Type
- Ultra Compact
- NTSC/PAL/SECAM Video Auto Switch
- Single Operation Voltage +12V
- CVBS / S-Video (Option) / Analog RGB (PC Mode) Signal Input
- All functions can be controlled by UART
- **RoHS complliant**

Mechanical Characteristics

Item	Standard Value	Unit
Screen size	5.6 inch (diagonal)	inch
Display Format	640 x (R, G, B) x 480	dot
Active Area	112.896 (H) x 84.672 (V)	mm
Outline Dimensions	126.5 (W) x 100 (H) x 5.7 (D) (Typ.)	mm
Pixel Pitch	0.1764 ((H) x 0.1764 (V)	mm
Pixel Configuration	Stripe	–
Surface Treatment	Anti-Glare	–
Display Mode	Normally White, Transmissive	–
Weight	88	grams

Absolute Maximum Ratings: Driving TFT LCD Panel GND = 0V, Ta = 25ºC

Item	Symbol	Absolute Maximum Rating		Unit	Remarks
		Min.	Max.		
Input Voltage	Vin	+9	4.6	V	
Video Input Signal	Video In	0.5	2.0	Vp-p	@75Ω
S-Video Input Signal	S-Video in	0.5	2.0	Vp-p	@75Ω
Analog RGB Input Signal	Analog RGB In	0.5	2.0	Vp-p	@75Ω
Digital Input Signal	TTL	+0.3	+3.6	V	
Operating Temperature without TSP		-20	+60	ºC	
Operating Temperature with TSP		-20	+60	ºC	
Storage Temperature without TSP		-20	+70	ºC	
Storage Temperature with TSP		-20	+70	ºC	

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.

Electrical Characteristics - Recommended Operating Conditions (Ta = 25ºC)

Item	Symbol	I/O	Specifications			Unit	Remark
			Min.	Typ.	Max.		
Input Voltage	Vin	I	+10	+12	+14	V	
Total Current	Iin	I		315		mA	
Power Consumption		I		3.78		W	@ +12V
Output Voltage	VDD	O	+3.2	+3.3	+3.4	V	I=10mA
Video Input Signal	Video in	I		1.0		Vp-p	@75Ω
S-Video Input Signal	S-Video in (Y)	I		0.7		Vp-p	@75Ω
	S-Video in (C)	I		0.286		Vp-p	@75Ω
Analog RGB Input SIgnal	Analog RGB in (RGB)	I		0.7		ςπ–π	@75Ω

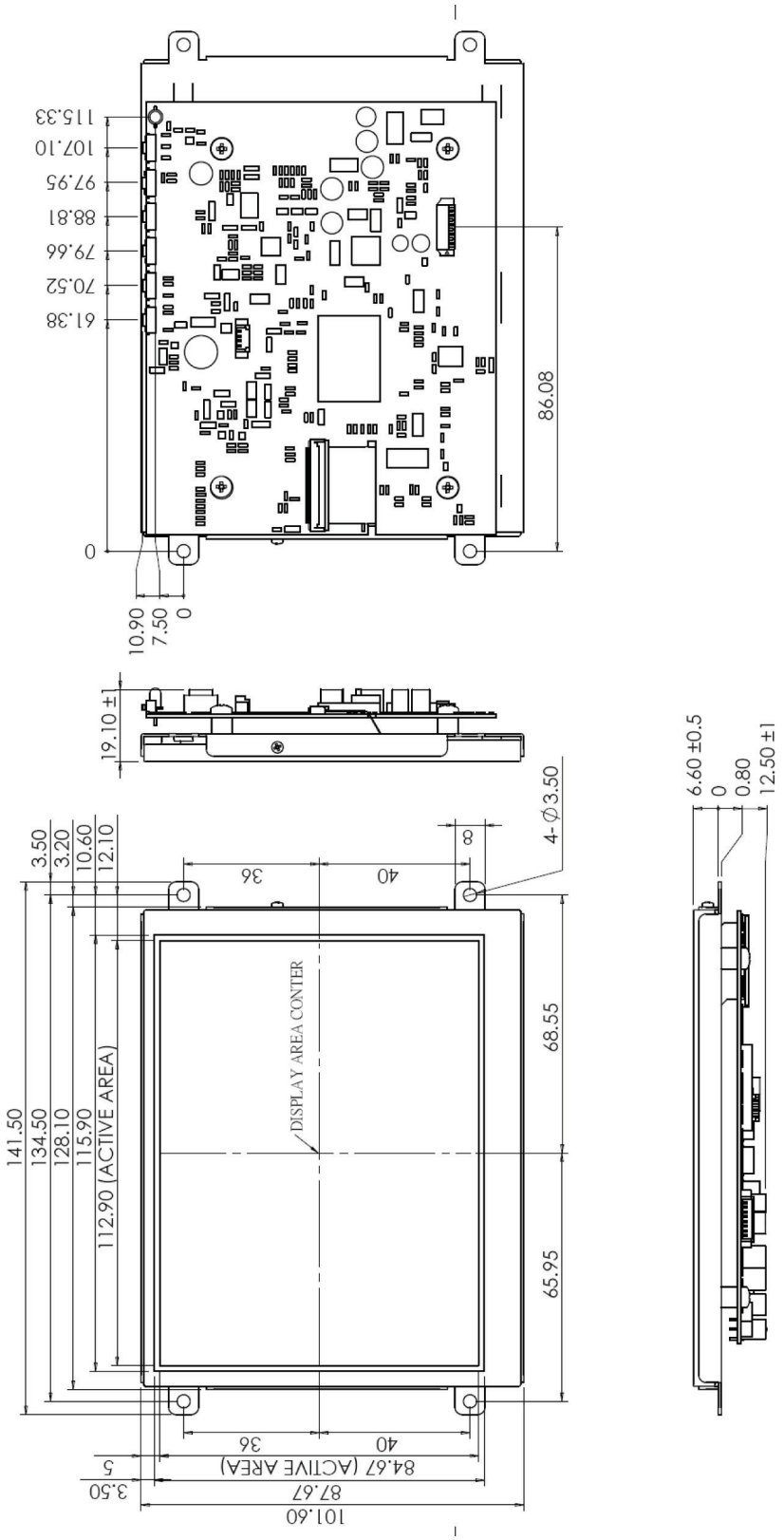
Optical Specifications (Ta = 25 ºC)

Item		Symbol	Remarks	Specifications Min.	Typ.	Max.	Units
Viewing Angle	Horizontal	Left	CR ≥ 10	60	70	–	deg
		Right		60	70	–	
	Vertical	Top		40	50	–	
		Bottom		60	70	–	
Contrast Ratio Luminance when LCD is white Luminance when LCD i black		CR	At Optimized Viewing Angle	400	500	–	–
Response Time	Rise	Tr	θ = 0º	—	10	20	ms
	Fall	Tf	θ = 0º	—	15	30	ms
Brightness		LUM		300	350	–	cd/m^2
Uniformity (%)		U		70	75	–	%
White Chhromaticity		x	θ = 0º	0.26	0.31	0.36	–
		y	θ = 0º	0.28	0.33	0.38	–
LED Life Time			25º	20,000	—	—	Hr

VGA Mode Characteristics - Recommended Operating Conditions (Ta = 25ºC)

Dots per inch	Hor.	Unit	Polarity	Ver.	Unit	Polarity
640 x 480	31.469	KHz	Negative	59.941	Hz	Negative
800 x 600	37.879	KHz	Positive	60.317	Hz	Positive
1024 x 768	48.363	KHz	Negative	60.004	Hz	Negative

Dimensional Outline:



Pin Description - J302: Innolux LCD Panel I/O Terminals (FPC 40 pin below contact type)

Pin No.	Symbol	I/O	Description
1	VLED	P	Power Voltage for LED circuit
2	VLED	P	Power Voltage for LED circuit
3	ADJ	I	Adjust the LED brightness with PWN Pulse
4	GLED	P	Ground for LED circuit
5	GLED	P	Ground for LED circuit
6	VCC	P	Power voltage for digital circuit
7	VCC	P	Power voltage for digital circuit
8	MODE	I	DE or HV mode control
9	DE	I	Data Enable
10	VS	I	Vsync Signal Input
11	HS	I	Hsync Signal Input
12	GND	P	Power Ground
13	B5	I	Blue data input (MSB)
14	B4	I	Blue data input
15	B3	I	Blue data input
16	GND	P	Power Ground
17	B2	I	Blue data input
18	B1	I	Blue data input
19	B0	I	Blue data input (LSB)
20	GND	P	Power ground
21	G5	I	Green data input (MSB)
22	G4	I	Green data input
23	G3	I	Green data input
24	GND	P	Power ground
25	G2	I	Green data input
26	G1	I	Green data input
27	G0	I	Green data input (LSB)
28	GND	P	Power ground
29	R5	I	Red data input (MSB)
30	R4	I	Red data input
31	R3	I	Red data input
32	GND	P	Power ground
33	R2	I	Red data input
34	R1	I	Red data input
35	R0	I	Red data input (LSB)
36	GND	P	Power gounrd
37	DCLK	I	Sample Clock
38	GND	P	Power ground
39	L/R	I	Select left to right scanning direction
40	U/D	I	Select up or down scanning direction

Pin Description - J106B: Pin Assignment of Analog RB Input (D-Sub 15 pin)

Pin No.	Symbol	I/O	Description
1	RI+	I	Analog Red Signal
2	GI+	I	Analog Green Signal
3	BI+	I	Analog Blue Signal
4	NC	–	No Connection
5	GND	–	Ground
6	AGND	–	Analog Ground
7	AGND	–	Analog Ground
8	AGND	–	Analog Ground
9	NC	–	No Connection
10	NC	–	No Connection
11	NC	–	No Connection
12	NC	–	No Connection
13	HS_IN	I	TTL Horizontal sync
14	VS_IN	I	TTL Vertical sync
15	NC	–	No Connection

Pin Description - J104: Pin Assignment of UART (Pitch 1.25 mm 4 pin, Top entry type)

Pin No.	Symbol	I/O	Description
1	TX	O	UART Transmission Data
2	RX	I	UART Receive Data
3	GND	–	Ground
4	VDDP	O	+3.3V Output voltage

Pin Description - DC 101: Pin Assignment of Power Input (Inside Diameter: 2.1 Φ Outside Diameter: 5.5 Φ Side entry type)

Pin No.	Symbol	I/O	Description
1	VIN	I	+12V Input Voltage
2	GND	–	Power Ground

Pin Description - RCA 101: Pin Assignment of Video Input (RCA JACK Yellow, Side Entry Type)

Pin No.	Symbol	I/O	Description
1	Video	I	Video Input
2	AGND	–	Analog Ground

Pin Description - J107A: Pin Assignment of Signal Input (Pitch 1.25mm, 8 Pin, Top Entry Type)

Pin No.	Symbol	I/O	Description
1	VCC12V	–	+12V Input Voltage
2	VCC12V	–	+12V Input Voltage
3	GND_D	–	Ground
4	GND_D	–	Ground
5	VIDEO1	I	Video 1 Input Signal
6	GND_A	–	Ground for Video 1
7	VIDEO2	I	Video 2 Input Signal
8	GND_A	–	Ground for Video 2

Pin Description - J404: Pin Assignment of Touch USB (USBA-Female 2.0 mm, Side Entry Type) (Option)

Pin No.	Symbol	I/O	Description
1	DGND	–	Digital Ground
2	D+	–	Data (+)
3	D-	–	(Data (-)
4	VBUS	–	USB VCC

Pin Description - DB401: Pin Assignment of Touch RS232 (D-SUB 9 Female) (Option)

Pin No.	Symbol	I/O	Description
1	–	–	Don't Connect
2	TXD	–	Transmit Data
3	RXD	–	Receive Data
4	–	–	Don't Connect
5	GND	–	Ground
6	NC	–	No Connection
7	–	–	Don't Connect
8	–	–	Don't Connect
9	NC	–	No Connection

Block Diagram