



ALP234FXX

Low-Temperature Polysilicon 2.5-inch TFT LCD Module

Overview

This wide viewing type 2.5 inch low temperature poly-silicon TFT-LCD module is suitable for digital still camera or for digital video camera.

Features

- Diagonal 6.3cm (2.5inch) display size.
- $881 \times 228 = 200,868$ dots.
- RGB delta color arrangement.
- Wide viewing angle, **Survival[®]**. (Super Ranged Viewing by Vertical Alignment)
- Operating temperature (panel) is -10 to $+6^{\circ}\text{C}$. Ambient temperature during storage is -20 to $+70^{\circ}\text{C}$.
- Slim design, light weight and narrow frame. ($t=0.7\text{mm}$ glass)
- Up/down and right/left inverse function.
- Built-in level shifter circuit.
- Conform to NTSC, PAL when using recommended IC : LV4131W, LV4133W, (LV4139W : Under development).
- Wide-viewing film, Anti-glare (AG) / Anti-reflection (AR) coat.
- Panel power consumption is Typ.170mW at NTSC.
- Optical transmittance is approx. 5.5%.

Specifications

Item	Specifications	Unit	Remarks
Dot count (H) \times (V)	881 \times 228	dot	
Effective display dimensions (H) \times (V)	50.25 \times 37.62	mm	
Display size (diagonal)	6.3(2.5inch)	cm	
Dot pitch (H) \times (V)	0.057 \times 0.165	mm	
Color arrangement	RGB Delta	-	
External Dimensions (W) \times (H) \times (D)	TYP 56.7 \times 40.6 \times 2.1	mm	Note1
Weight	10	g	

*Note1: Excluding flexible cable, protrusions.

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Absolute Maximum Ratings at HVSS=0V, VVSS=0V

Item	Symbol	Ratings	Unit
H driver power supply voltage	HVDD	-1.0 to +17	V
V driver power supply voltage	VVDD	-1.0 to +17	V
Common electrode voltage	VCOM	-1.0 to +17	V
Driving direction signal voltage	CSH, CSV	-1.0 to +17	V
H driver input voltage	STH, XSTH, CKH1, CKH2	-1.0 to +17	V
V driver / precharge data input voltage	STV, XSTV, CKV1, CKV2, ENB, XENB, PCG, XPCG	-1.0 to +17	V
Video / precharge data input voltage	VG, VR, VB, VPCD	-1.0 to +13	V
Operating temperature (panel)	Topr	-10 to +60	°C
Storage temperature	Tstg	-20 to +70	°C

Operating Conditions

Power supply voltage HVDD 15.5V ± 0.5V, VVDD 15.5V ± 0.5V, VVSS 0V, HVSS 0V

Item	Symbol	MIN	TYP	MAX	Unit	
H driver input voltage	Low	VHIL	-0.3	0.0	0.3	V
	High	VHIH	2.5	3.0	4.0	V
V driver input voltage	Low	VVIL	-0.3	0.0	0.3	V
	High	VVIH	2.5	3.0	4.0	V
CSV, CSH	Low	VSIL	-0.3	0.0	0.3	V
	High	VSIH	11.5	VDD	VDD	V
Video signal center voltage	VVC	6.3	6.5	6.8	V	
Video signal input voltage range *1	VG, VR, VB	VVC-5.0	-	VVC+5.0	V	
Common electrode voltage*2	VCOM	(VVC-3.5)-0.2	(VVC-3.5)	(VVC-3.5)+0.2	V	
Precharge data signal *1	VPCD	-	VVC±5.0	-	V	

*1 Video signal and precharge data signal shall be input symmetrically around VVC.

*2 Set common electrode voltage to the optimum voltage.

Optical Specifications

Item	Symbol	Condition	MIN	TYP	MAX	Unit
Contrast ratio	CR	25°C	-	100	-	-
Viewing angle range	θT	CR ≥ 10	-	50	-	deg
	θB			50		
	θL			50		
	θR			50		

Pin Function

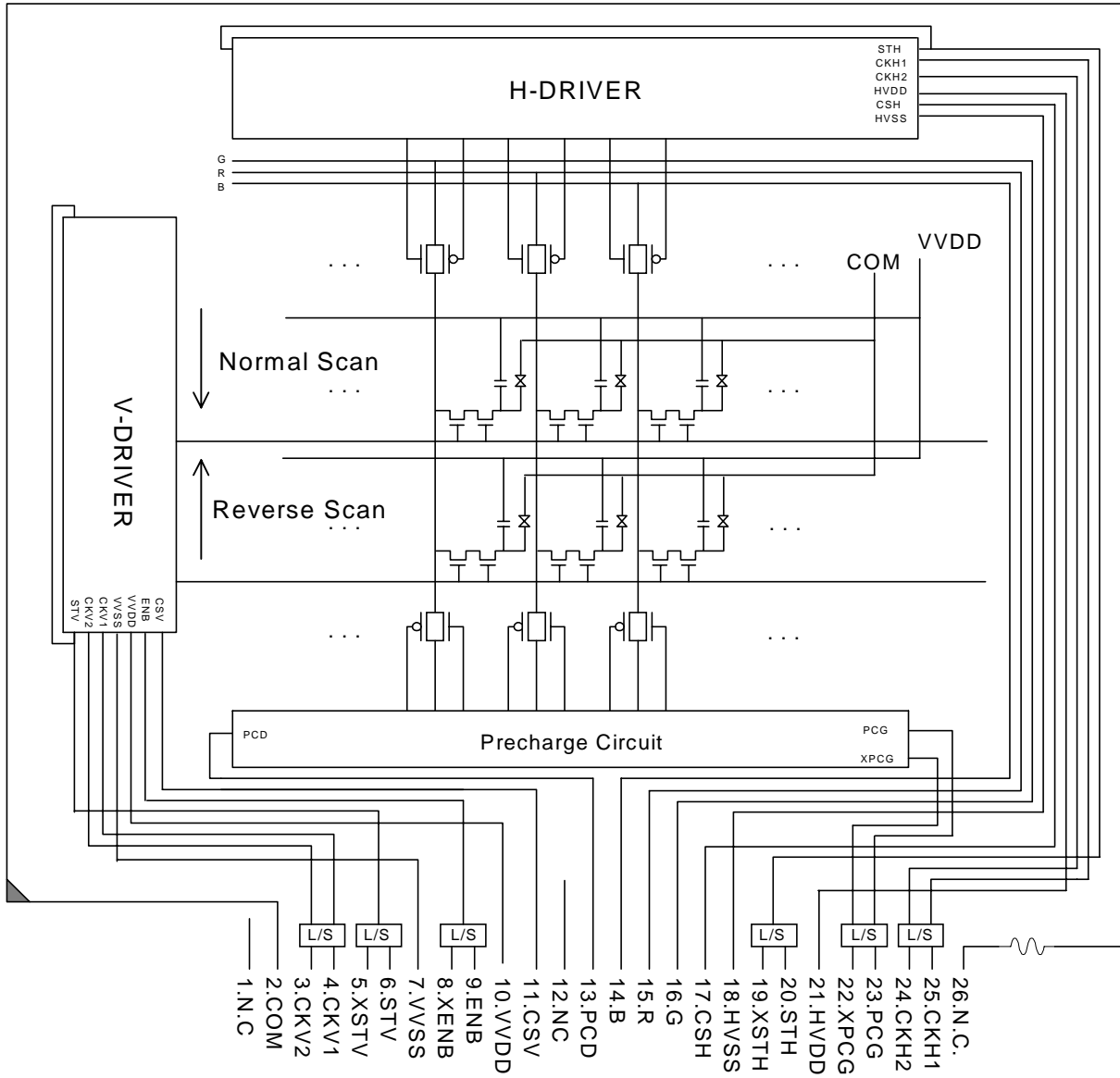
Pin No	Symbol	Function
1	NC	Leave this pin open
2	COM	Common electrode voltage
3	CKV2	V clock 2
4	CKV1	V clock 1
5	XSTV	Inverted signal of STV
6	STV	V start signal
7	VVSS	VSS for V drive
8	XENB	Inverted signal of ENB
9	ENB	Enable signal
10	VVDD	VDD for V drive
11	CSV	Up / down inverse control signal (H : Normal scan, L : Reverse scan)
12	NC	Leave this pin open
13	PCD	Precharge data signal
14	B	Video signal (B)
15	R	Video signal (R)
16	G	Video signal (G)
17	CSH	Right / left inverse control signal (H : Normal scan, L : Reverse scan)
18	HVSS	VSS for H drive
19	XSTH	Inverted signal of STH
20	STH	H start signal
21	HVDD	VDD for H drive
22	XPCG	Inverted signal of PCG
23	PCG	Precharge gate signal
24	CKH2	H clock 2
25	CKH1	H clock 1
26	NC	Leave this pin open

Block Diagram

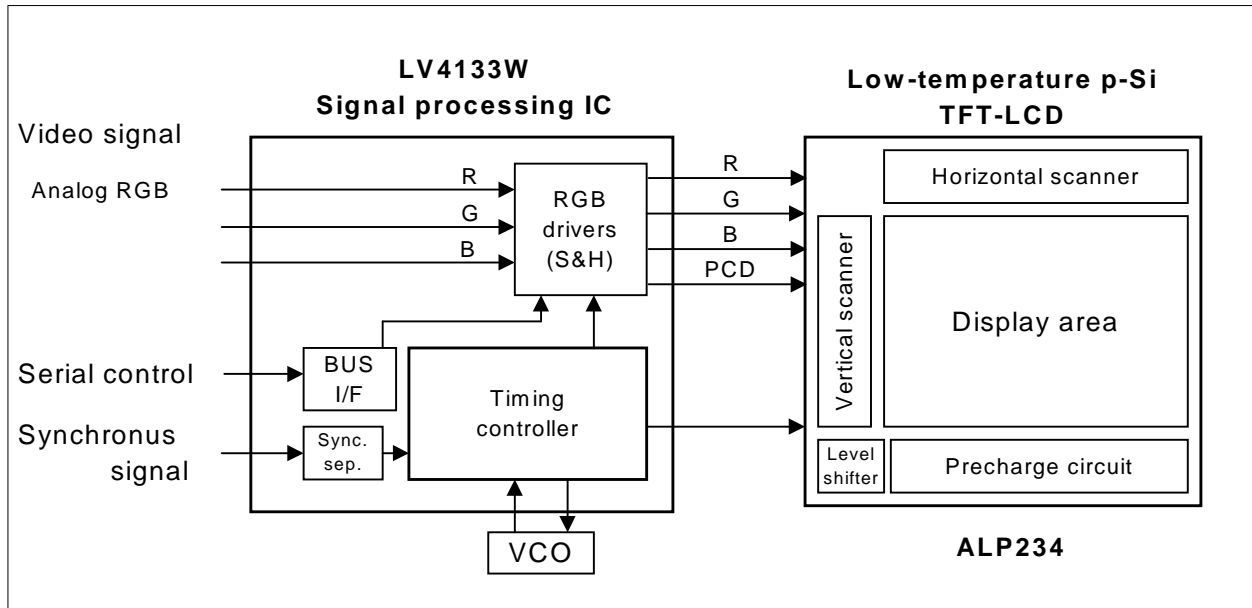
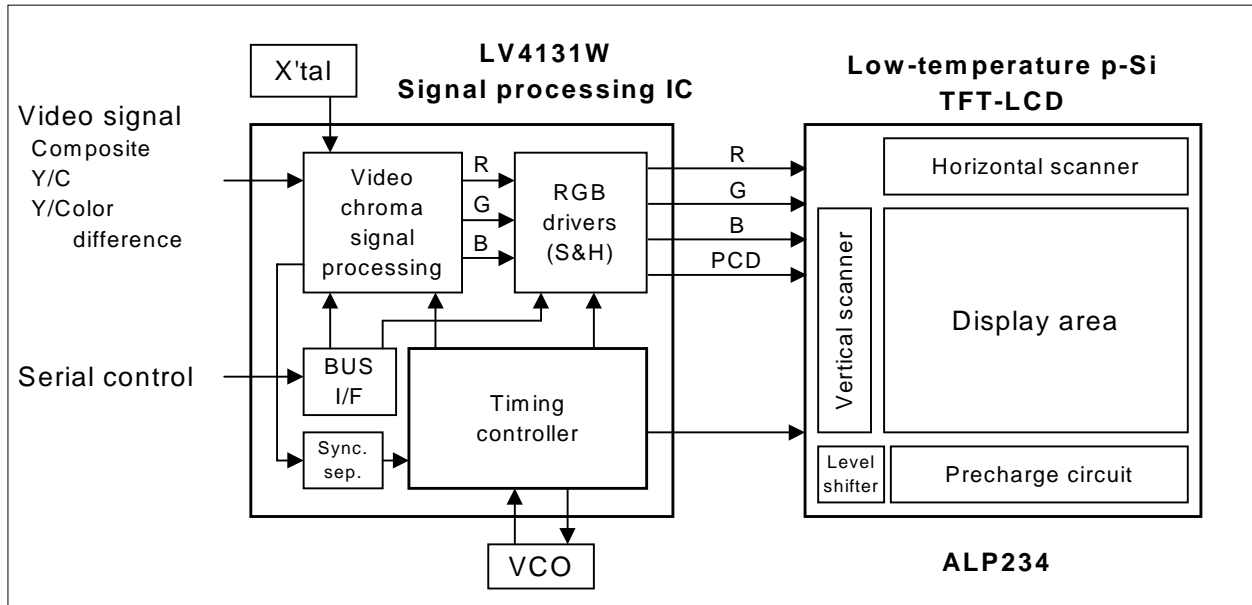
Front View

→ Normal Scan

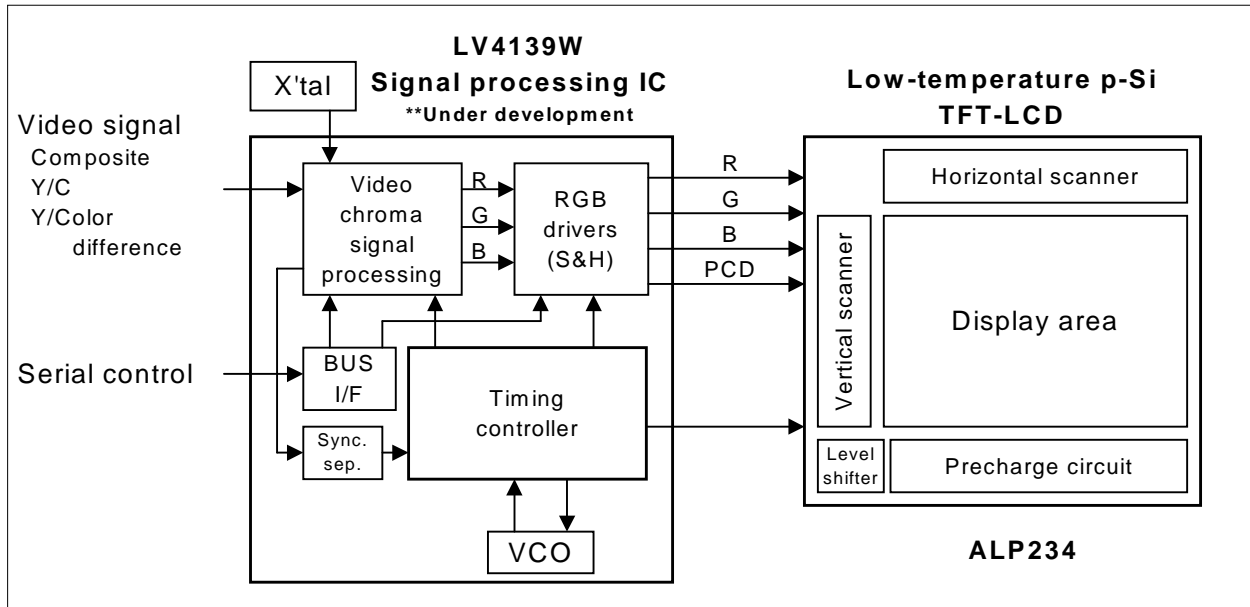
← Reverse Scan



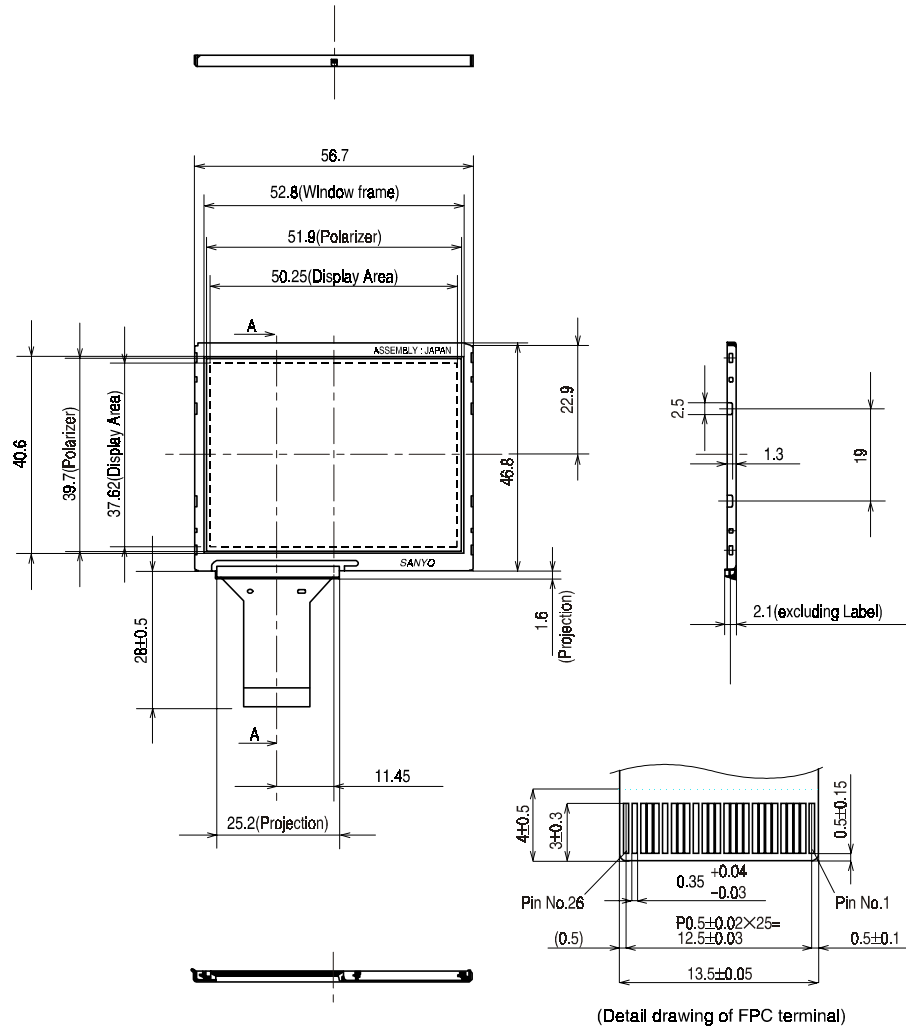
System Configuration



System Configuration



Package Dimension



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