

**ALP022AGXB**

Low-Temperature Polysilicon 0.55-inch TFT LCD Module

Overview

This 0.55 inch low temperature poly- silicon TFT-LCD module consists of LCD panel and White LED backlight. This is suitable for digital video camera or for digital still camera as view finder.

Features

- Diagonal 1.375cm (0.55inch) display size.
- $521 \times 218 = 113,578$ dots.
- RGB delta color arrangement.
- Operating temperature (Panel) is -10 to $+60^{\circ}\text{C}$. Ambient temperature during storage is -20 to $+70^{\circ}\text{C}$.
- Slim design, light weight and narrow frame. ($t=0.7\text{mm}$ glass)
- Builds in level shifter circuit.
- Conform to NTSC, PAL when using recommended IC : LV4135W, LV4137W, (LV4139W : Under development).
- Glare polarizer.
- Builds in White LED backlight unit. (No inverter unit.)
- Panel power consumption is Typ.27mW at NTSC. Back-light power consumption is 72mW. (reference)
- Display surface luminance is typ 130cd/m².

Specifications

Item	Specifications	Unit	Remarks
Dot count (H) \times (V)	521 \times 218	dot	
Effective display dimensions (H) \times (V)	11.26 \times 8.37	mm	
Display size (diagonal)	1.375 (0.55inch)	cm	
Dot pitch (H) \times (V)	0.0216 \times 0.0384	mm	
Color arrangement	RGB Delta	-	
External Dimensions (W) \times (H) \times (D)	TYP 18.0 \times 17.8 \times 5.8	mm	Note1
Weight	Approx. 3	g	

*Note1: Excluding flexible cable and protrusions.

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Absolute Maximum Ratings at VSS=0V

Item	Symbol	Ratings	Unit
H driver power supply voltage	HVDD	-1.0 to +14	V
V driver power supply voltage	VVDD	-1.0 to +14	V
Common electrode voltage	VCOM	-1.0 to +14	V
Driving direction signal voltage	CSH, CSV	-1.0 to +14	V
H driver input voltage	STH, XSTH, CKH1, CKH2	-1.0 to +14	V
V driver / precharge data input voltage	STV, XSTV, CKV1, CKV2, ENB, XENB, PCG, XPCG	-1.0 to +14	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 LV4135W LV4137W : 12.0V ± 0.3V

VVDD LV4135W LV4137W : 12.0V ± 0.3V

VSS LV4135W LV4137W : 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	LV4135W, LV4137W	VVC	5.3	5.5	5.7	V	
Video signal input voltage range *1		VG, VR, VB	VVC-3.5	-	VVC+3.5	V	
Common electrode voltage*2		VCOM	(VVC-0.2)-0.2	(VVC-0.2)	(VVC-0.2)+0.2	V	
Precharge data signal *1		VPCD	VVC±1.5	VVC±2.0	VVC±2.5	V	

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

*2 Set common electrode voltage to the optimum voltage.

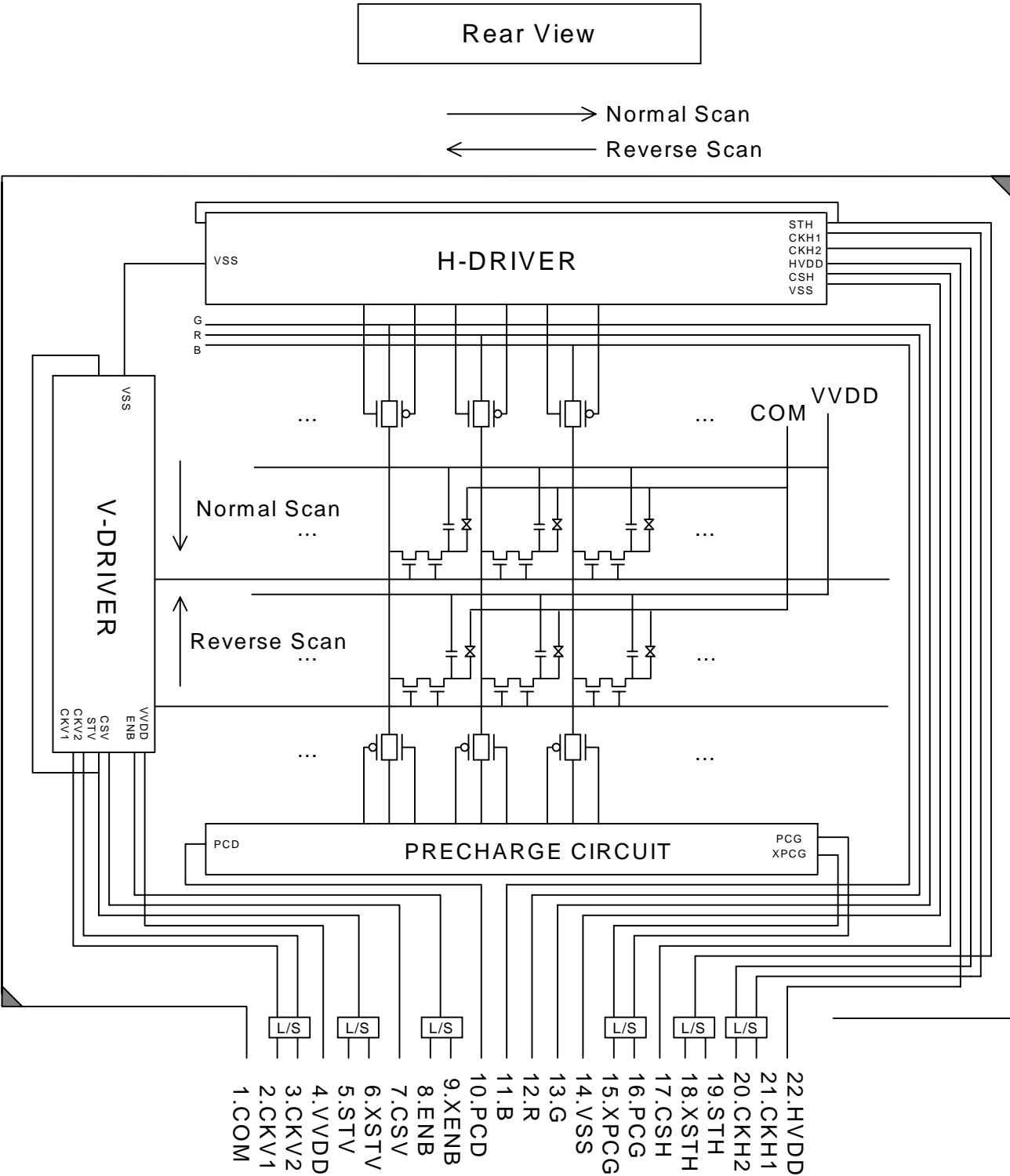
Optical Specifications

Item	Symbol	Condition	MIN	TYP	MAX	Unit
Contrast ratio	CR	25°C	-	100	-	-
Viewing angle range	•T	CR ≥ 10	-	15	-	deg
	•B			35		
	•L			45		
	•R			45		

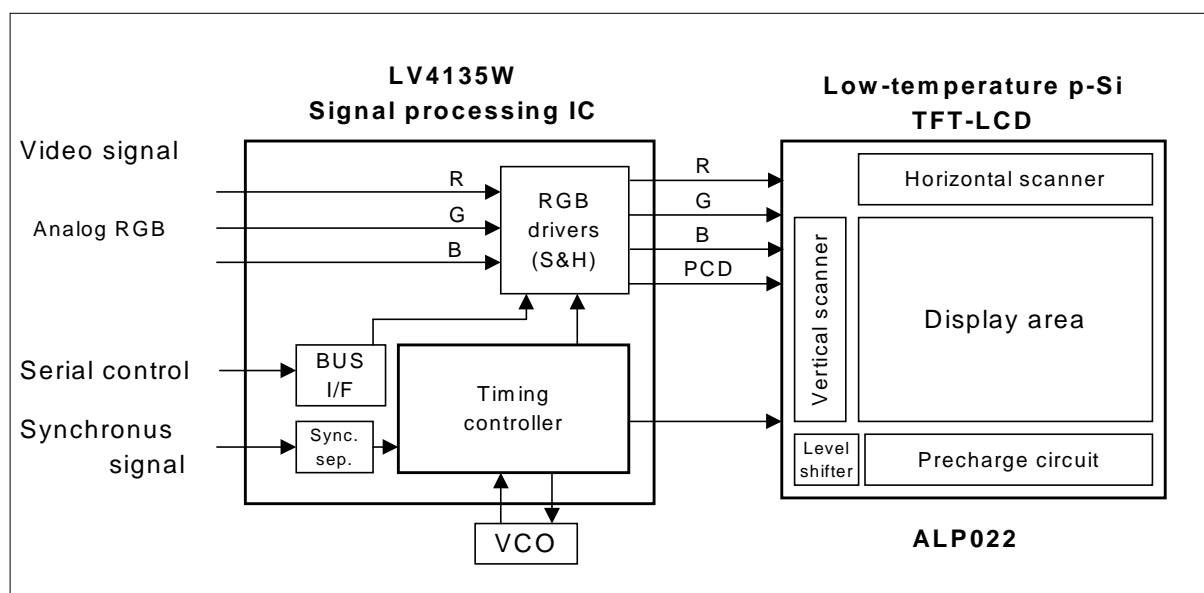
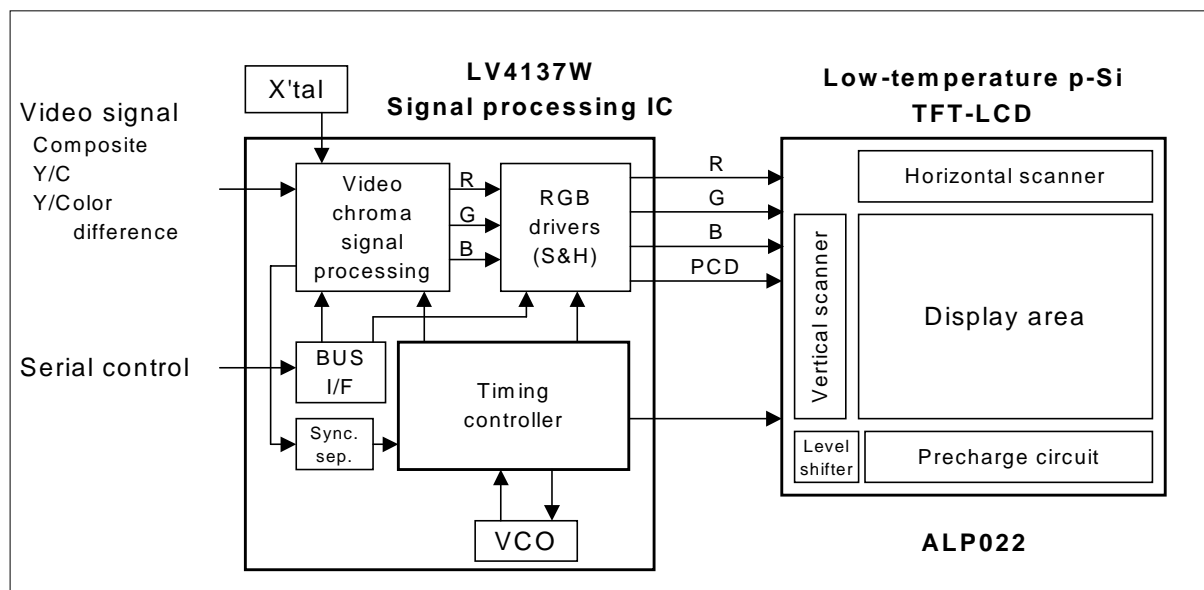
Pin Function

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

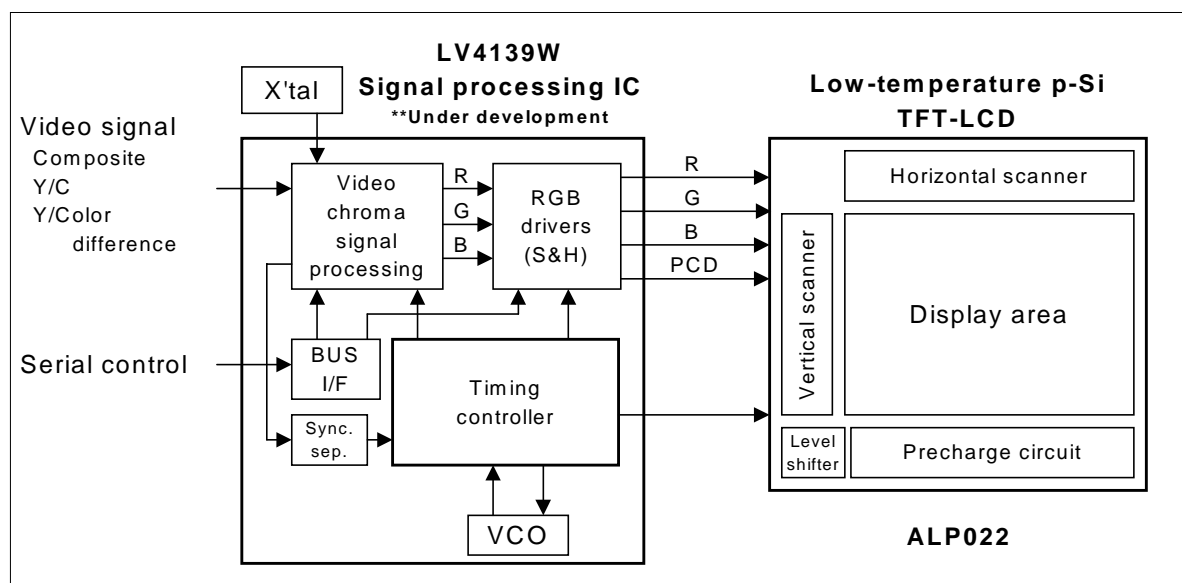
Block Diagram



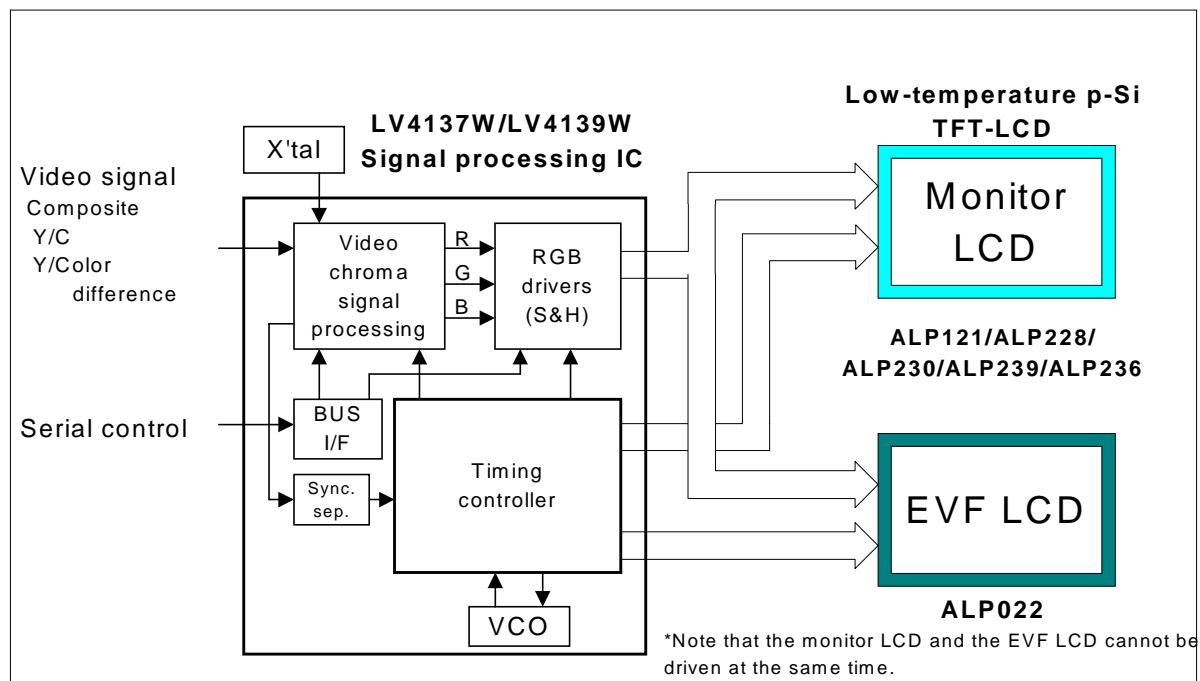
System Configuration



System Configuration

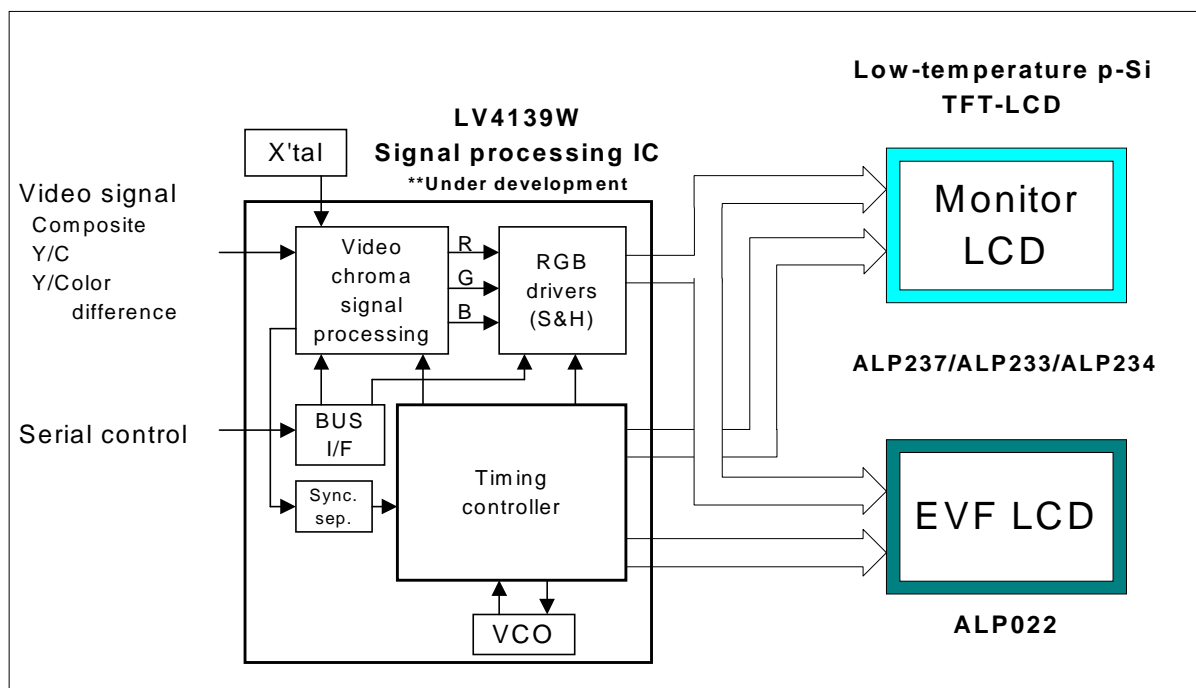


1chip drive (EVF & TN LCD)

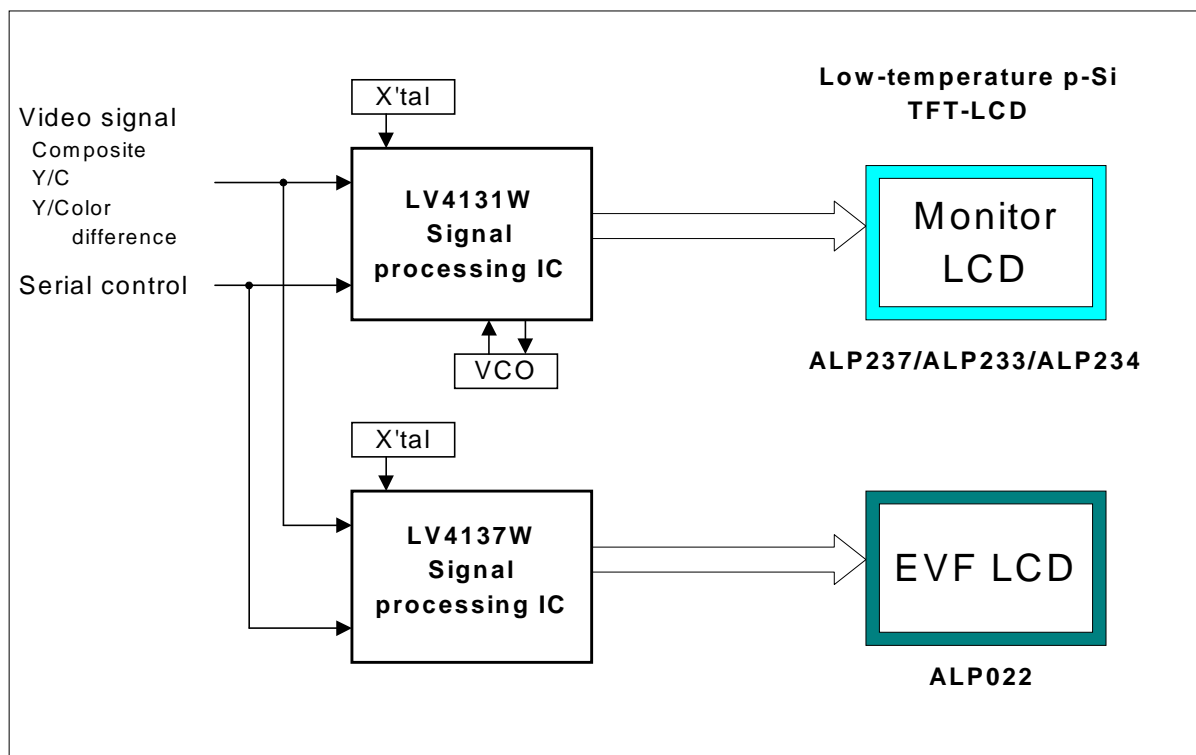


System Configuration

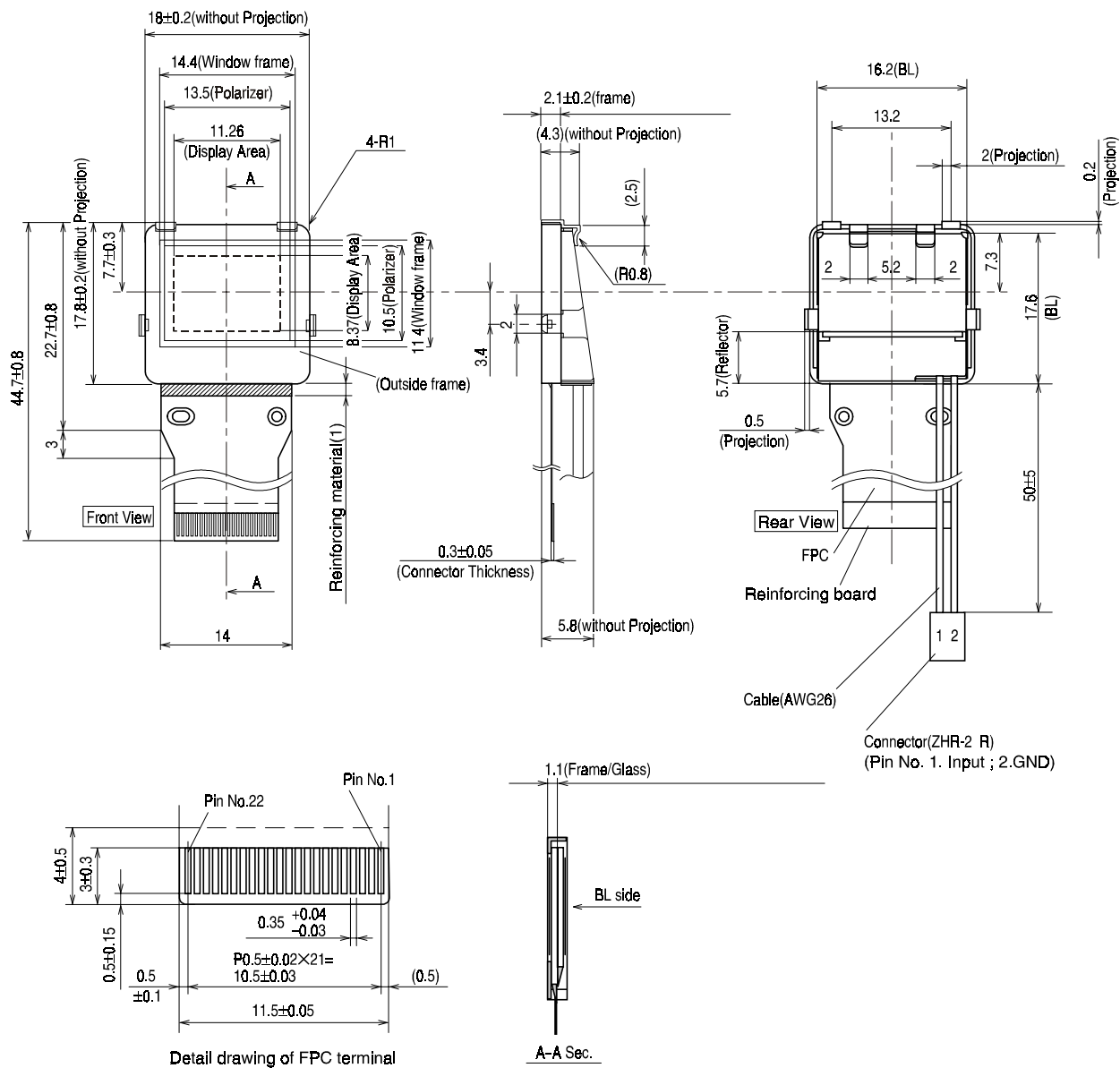
1chip drive (EVF & TN or Survival® LCD)



2chip drive (EVF & Survival® LCD)



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