

Application

This specification is applied to the 4.3 inch supported TFT-LCD module, and can display true 16.7M colors(8 bit/ color).The module is designed for PMP, GPS application and other electronic products which require flat panel display of digital signal interface. The model is composed of a TFT LCD panel, a driver circuit and a back-light system.

Features

- WQVGA (480×272 pixels) resolution.
- 24 bit parallel RGB.

General Specifications

Item	Specifications	Unit
Screen Size	4.3 (Diagonal)	inch
Display Format	480RGB(H)×272(V)	dot
Active Area	95.04(H)×53.856(V)	mm
Pixel Pitch	0.198(H)×0.198(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	IPS Type/Transmissive Mode/Normally Black	-
Surface Treatment	Anti-Glare	-
Viewing Direction	Full view angle	-
Outline Dimension	105.5(W)×67.2(H)×3.1(D)	mm
Weight	(41.4)	g
RoHS Compliance	Evervision certifies this product to be in compliance with European Union Directive 2015/863/EU on the restriction of certain hazardous substances in electrical and electronic equipment.	-

Absolute Maximum Ratings

Absolute Ratings of Environment

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T _{ST}	-30	+85	°C	(1)(2)
Operating Ambient Temperature	T _{OP}	-30	+85	°C	(1)(2)

Note1: Background color changes slightly depending on ambient temperature.

This phenomenon is reversible.

Note2: Please refer to item of RELIABILITY.

Electrical Absolute Ratings

TFT-LCD Module

(Ta=25±2°C, VSS=0V)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Digital Power Supply Voltage	DVDD	-0.3	4.0	V	-

Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Current of Backlight Unit	I _B	-	25	mA	(1)
Reverse Voltage	V _R	-	50	V	(1)

Note (1) Permanent damage to the device may occur if maximum values are exceeded or reverse voltage is loaded.

Electrical Characteristics

TFT-LCD Module

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Digital Power Supply Voltage	DVDD	3.0	3.3	3.6	V	-
Digital Current	IDVDD	-	26	36.4	mA	(1)
Input High Threshold Voltage	VIH	0.7xDVDD	-	DVDD	V	-
Input Low Threshold Voltage	VIL	0	-	0.3xDVDD	V	-
Pixel Clock	DCLK	-	9.0	-	MHz	-

Note (1) The specified power consumption is under the conditions at DVDD = 3.3V, FV=60Hz, DCLK=9.0 MHz, whereas a power dissipation check Pattern below is displayed.

White Pattern / 255 Gray



Active Area

Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
LED Voltage	VL	-	(33)	-	V	(1) (3)
Current of Backlight Unit	I _B	-	20	-	mA	(1)
Power Consumption	P _{BL}	-	(660)	-	mW	(1)
LED life time	-	50000	60000	-	Hr	(2)

Note (1) The driving design of backlight unit is dependent on serial consideration of 10 LEDs.

(2) The LED life time is defined as the module brightness decrease to 50%, original brightness at Ta=25°C , I_B =20mA.

(3)The BLU is driven by constant current, the voltage value is for reference only.



Input / Output Terminals Pin Assignment

TFT-LCD

(Reference Connector :

Hirose Electric CO., LTD. Product No.: FH12A-40S-0.5SH(55) Top contact type)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VSS	Ground	21	B0	Blue data(LSB)
2	VSS	Ground	22	B1	Blue data
3	DVDD	POWER SUPPLY(+3.3V)	23	B2	Blue data
4	DVDD	POWER SUPPLY(+3.3V)	24	B3	Blue data
5	R0	Red data(LSB)	25	B4	Blue data
6	R1	Red data	26	B5	Blue data
7	R2	Red data	27	B6	Blue data
8	R3	Red data	28	B7	Blue data(MSB)
9	R4	Red data	29	VSS	Ground
10	R5	Red data	30	DCLK	clock
11	R6	Red data	31	DISP	Display ON/OFF Signal
12	R7	Red data(MSB)	32	HSYNC	Horizontal Sync input with negative polarity
13	G0	Green data(LSB)	33	VSYN	Vertical Sync input with negative polarity
14	G1	Green data	34	DE	Data Enable
15	G2	Green data	35	NC	NC
16	G3	Green data	36	NC	NC
17	G4	Green data	37	NC	NC
18	G5	Green data	38	NC	NC
19	G6	Green data	39	LED_K	Backlight LED Cathode.
20	G7	Green data(MSB)	40	LED_A	Backlight LED Anode.

Outline Drawing

