

Application

This specification is applied to the 3.5 inch QVGA supported TFT-LCD module, and can display 16M colors with dithering (8 bit/ color). The module is designed for PMP, GPS application and other electronic products which require flat panel display of digital signal interface.

Features

- QVGA (320×240 pixels) resolution.
- Display in 16M colors with dithering
- Line inversion mode with stripe type.
- On-chip voltage generator
- SYNC mode is supported for digital RGB input data format.
- Ultra Wide View Polarizer

General Specifications

Item	Specifications	Unit
Screen Size	3.5 (Diagonal)	inch
Display Format	320RGB(H)×240(V)	dot
Active Area	70.08(H)×52.56(V)	mm
Pixel Pitch	0.073(H)×0.219(V)	mm
Display Mode	TN Type / Transmissive Mode / Normally White	-
Surface Treatment	Anti-Glare	-
Viewing Direction	6 O'clock (The Gray Inversion will appear at this direction)	-
Outline Dimension	76.9(W)×63.9(H)×3.3(D)	mm
DC to DC circuit	Build-in	mm
Weight	(32.5)	g
RoHS Compliance	RoHS Compliance	-

▲ Absolute Maximum Ratings

Absolute Ratings of Environment

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T_{ST}	-30	+80	°C	(1)(2)
Operating Temperature	T_{OP}	-20	+70	°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

($T_a=25\pm 2^\circ\text{C}$, $GND=V_{SS}=0V$)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Digital Power Supply Voltage	V_{CC}	$V_{SS}-0.3$	5.0	V	-

Backlight Unit

($T_a=25\pm 2^\circ\text{C}$)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Forward current	I_f	-	(50)	mA	(1)
Reverse voltage	V_R	-	(25)	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.		
Power Supply Voltage	V_{CC}	2.5	3.3	3.6	V	-
Power Supply Current	I_{CC}	-	15.6	22.0	mA	(1)
Input High Threshold Voltage	V_{IH}	$0.8V_{CC}$	-	V_{CC}	V	-
Input Low Threshold Voltage	V_{IL}	0	-	$0.2V_{CC}$	V	-
Power Consumption	P_L	-	51.48	72.6	mW	(1)
VSYNC Frequency	F_V	-	60	90	Hz	-
HSYNC Frequency	F_H	-	15.72	22.35	KHz	-
DCLK Frequency	DCLK	-	6.5	10	MHz	-

Note (1) The specified power consumption is under the conditions at $V_{CC}=3.3V$, $F_V=60Hz$, whereas a power dissipation check pattern below is displayed.

Black Pattern / 0 Gray



Active Area

Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
LED Voltage	VL	-	(16.5)	-	V	(1)
LED Current	IL	-	(40)	-	mA	(1)
Power Consumption	P _{BL}	-	(660)	-	mW	(1)
LED Life Time(25°C)	-	10000	30000	-	hr	(2)

Note (1) The driving design of backlight unit is dependent on serial consideration of 5S2P LEDs.

Note (2) LED life time is defined as under 25±2°C, when the average brightness decrease to 50% of original brightness

▲ **Input / Output Terminals Pin Assignment**
TFT-LCD (CVILUX CF25541D0R0-05)

Pin No.	Symbol	I/O	Description
1	LED_K	I	LED_cathode
2	LED_K	I	LED_cathode
3	LED_A	I	LED_anode
4	LED_A	I	LED_anode
5	NC	I	No connection
6	NC	I	No connection
7	NC	I	No connection
8	RESET	I	Reset
9	NC	I	No connection
10	NC	I	No connection
11	NC	I	No connection
12	D20	I	Blue data(LSB)
13	D21	I	Blue data
14	D22	I	Blue data
15	D23	I	Blue data
16	D24	I	Blue data
17	D25	I	Blue data
18	D26	I	Blue data
19	D27	I	Blue data(MSB)
20	D10	I	Green data(LSB)
21	D11	I	Green data
22	D12	I	Green data
23	D13	I	Green data
24	D14	I	Green data
25	D15	I	Green data
26	D16	I	Green data
27	D17	I	Green data(MSB)
28	D00	I	Red data(LSB)
29	D01	I	Red data
30	D02	I	Red data

Pin No.	Symbol	I/O	Description
31	D03	I	Red data
32	D04	I	Red data
33	D05	I	Red data
34	D06	I	Red data
35	D07	I	Red data(MSB)
36	HSYNC	I	Line synchronization signal.
37	VSYNC	I	Frame synchronization signal.
38	DOTCLK	I	Dot Colck signal
39	NC	I	No connection
40	NC	I	No connection
41	V _{cc}	I	For system power supply.
42	V _{cc}	I	For system power supply.
43	NC	I	No connection
44	NC	I	No connection
45	NC	I	No connection
46	NC	I	No connection
47	NC	I	No connection
48	NC	I	No connection
49	NC	I	No connection
50	NC	I	No connection
51	NC	I	No connection
52	NC	I	No connection
53	GND	I	Ground
54	GND	I	Ground

Outline Drawing

