

Application

This specification is applied to the 13.3 inch FHD supported TFT-LCD module, and can display true 16.7M colors(RGB 8-bits data driver). The module is designed for OA, Car TV application and other electronic products which require flat panel display of digital signal interface. This module is composed of a 13.3" TFT-LCD panel, a driver circuit and backlight unit.

Features

- FHD 16:9(1920×1080 pixels) resolution.
- 2 channel LVDS interface
- LED driver circuit is built in this module to provide PWM Dimmer function

General Specifications

Item	Specifications	Unit
Screen Size	13.3 (Diagonal)	inch
Display Format	1920RGB(H)×1080(V)	dot
Active Area	293.76(H)×165.24(V)	mm
Pixel Pitch	0.153(H)×0.153(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	IPS Type / Transmissive Mode / Normally Black	-
Surface Treatment	Anti-Glare (3H)	-
Viewing Direction	Full Angle	-
Outline Dimension	307.6(W)×183.05(H)×10.46(D)	mm
Weight	(412.8)	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 Ambient 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

(Ta=25±2°C)

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

LED Driver Absolute Maximum Ratings

(Ta=25±2°C)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
LED Driver Supply Voltage	VLED	-0.3	17	V	(1)
LED Driver PWM	LED_PWM	-0.3	6	V	(1)
LED Driver Enable	LED_EN	-0.3	6	V	(1)

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

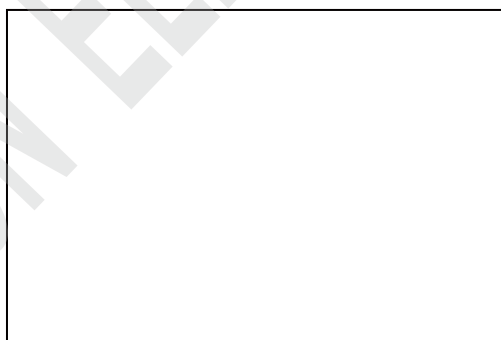
Electrical Characteristics

TFT-LCD Module

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VDD	3.0	3.3	3.6	V	-
Power Supply Current	IDD	-	376	526.4	mA	
Differential Input High Threshold Voltage	V _{TH}	-	-	50	mV	
Differential Input Low Threshold Voltage	V _{TL}	-50	-	-	mV	
LVDS common input voltage	V _{ic}	-	1.2	1.8	V	
LVDS terminating resistor	RT	-	100	-	ohm	

Note (1) The ambient temperature is $T_a = 25 \pm 2$ °C.

White Pattern / 255 Gray



Active Area

LED Driver Unit

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Voltage of LED Driver Unit	VLED	11.5	12.0	12.5	V	-
Current of LED Driver Unit	ILED	-	1240	1736	mA	VLED=12V 、 B/L=400mA
PWM signal Low voltage	VPWML	0	-	0.4	V	-
PWM signal High voltage	VPWMH	1.5	-	5	V	-
PWM frequency	f _{PWM}	100	-	1000	Hz	-
LED Life Time(25°C)	-	-	50000	-	Hr	(1)

Note (1) : 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 Module

Pin No.	Symbol	Function
1	VLED	+12V Vi power supply
2	VLED	+12V Vi power supply
3	VLED	+12V Vi power supply
4	VLED	+12V Vi power supply
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	LED_EN	Enable pin
10	LED_PWM	Backlight Adjust
11	VDD	LCD logic and driver power 3.3V
12	VDD	LCD logic and driver power 3.3V
13	VDD	LCD logic and driver power 3.3V
14	NC	Not connection, this pin should be open
15	NC	Not connection, this pin should be open
16	NC	Not connection, this pin should be open
17	LCD GND	LCD logic and driver ground
18	RX00-	Negative LVDS differential data input. Channel O0 (odd)
19	RX00+	Positive LVDS differential data input. Channel O0 (odd)
20	RX01-	Negative LVDS differential data input. Channel O1 (odd)
21	RX01+	Positive LVDS differential data input. Channel O1 (odd)
22	RX02-	Negative LVDS differential data input. Channel O2 (odd)
23	RX02+	Positive LVDS differential data input. Channel O2 (odd)
24	LCD GND	LCD logic and driver ground
25	RXOC-	Negative LVDS differential clock input. (odd)
26	RXOC+	Positive LVDS differential clock input. (odd)
27	LCD GND	LCD logic and driver ground
28	RX03-	Negative LVDS differential data input. Channel O3(odd)
29	RX03+	Positive LVDS differential data input. Channel O3 (odd)
30	RXE0-	Negative LVDS differential data input. Channel E0 (even)

31	RXE0+	Positive LVDS differential data input. Channel E0 (even)
32	RXE1-	Negative LVDS differential data input. Channel E1 (even)
33	RXE1+	Positive LVDS differential data input. Channel E1 (even)
34	LCD GND	LCD logic and driver ground
35	RXE2-	Negative LVDS differential data input. Channel E2 (even)
36	RXE2+	Positive LVDS differential data input. Channel E2 (even)
37	RXEC-	Negative LVDS differential clock input. (even)
38	RXEC+	Positive LVDS differential clock input. (even)
39	RXE3-	Negative LVDS differential data input. Channel E3 (even)
40	RXE3+	Positive LVDS differential data input. Channel E3 (even)

Note (1) Connector Part No.: I-PEX 20455-040E-76 or equivalent.

Note (2) User's connector Part No.: I-PEX 20453-040T-03 or equivalent.

Outline Drawing

