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4. Application

This specification is applied to the 7 inch WSVGA supported TFT-LCD module With projected capacitive touch (PCT) and can display true 16.7M colors (RGB 6-bits + HiFRC data). This module is composed of a 7" TFT-LCD panel, a driver circuit and backlight unit.

5. Features

- WSVGA (1024×600 pixels) resolution.
- eDP Interface.
- LED driver circuit is built in this module to provide PWM Dimmer function.

6. General Specifications

Item	Specifications	Unit
Screen Size	7 (Diagonal)	inch
Display Format	1024RGB(H)×600(V)	dot
Active Area	154.214(H)×85.92(V)	mm
Pixel Pitch	0.1506(H)×0.1432(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	IPS Type / Transmissive Mode / Normally Black	-
Surface Treatment	Anti-Glare and Hard Coating(3H)	-
Viewing Direction	Full view angle	-
Outline Dimension	165.0(W)×104.0(H)×9.91(D)	mm
Weight	(125.4)	g
RoHS Compliance	RoHS Compliance	-

7. Absolute Maximum Ratings

7.1 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.

7.2 Electrical Absolute Ratings

7.2.1 TFT-LCD Module

7.2.1 TFT-LCD Module

(Ta=25±2°C, GND=V_{SS}=0V)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Digital Power Supply Voltage	VCC	-0.5	5.0	V	-

7.2.2 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	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.

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8. Electrical Characteristics

8.1 TFT-LCD Module(Note 1)

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VCC	3.1	3.3	3.5	V	-
Power Supply Current	ICC	-	340.0	476.0	mA	(1)
Power Consumption	P _L	-	1122.0	1570.8	mW	(1)
VSYNC Frequency	F _V	-	60	-	Hz	-
DCLK Frequency	DCLK	-	51.2	-	MHz	-

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

White Pattern / 255 Gray



Active Area

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8.2 LED Driver Unit

(Ta=25±2°C)

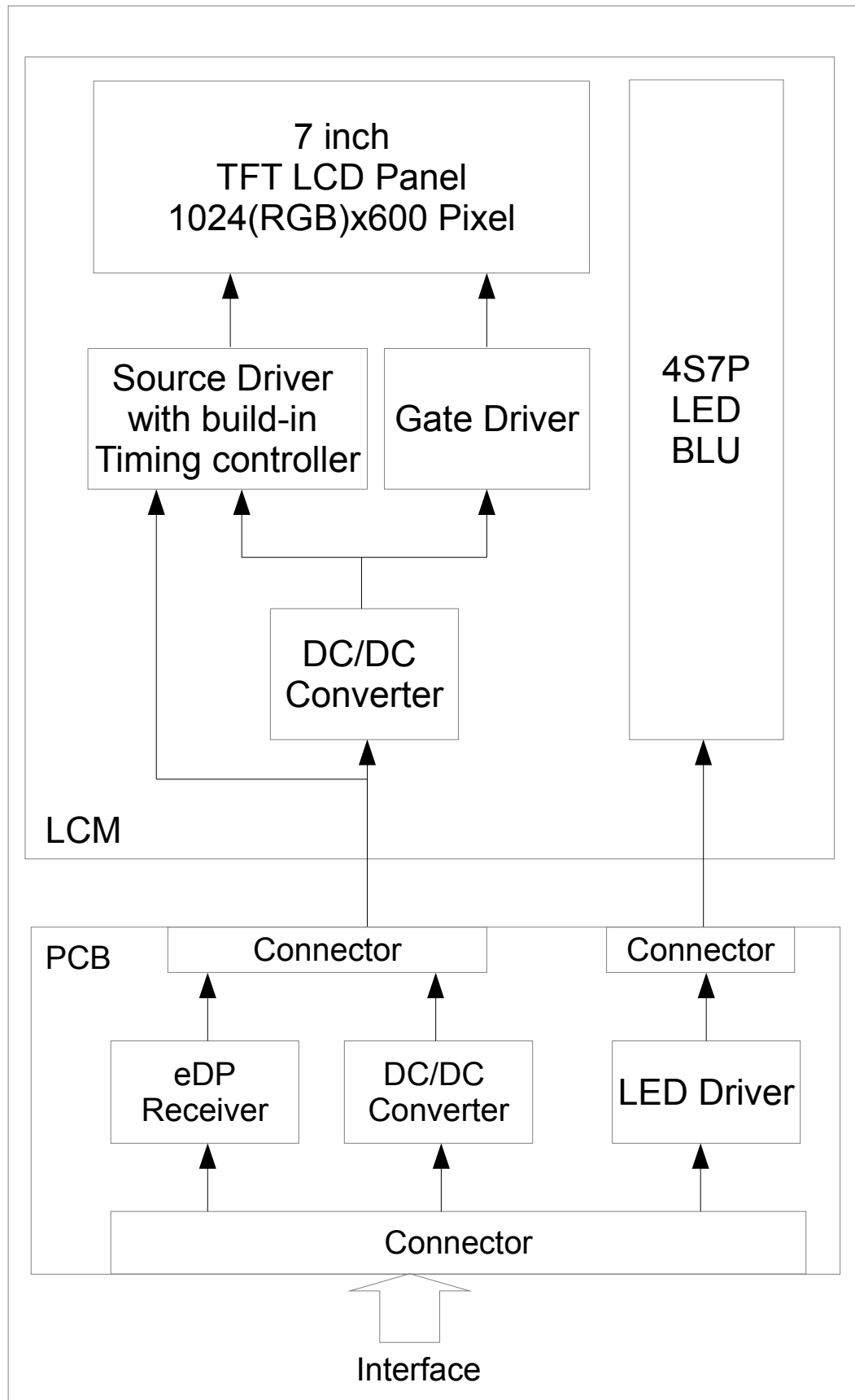
Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Voltage of LED Driver Unit	VLED	11.5	12.0	12.5	V	-
Current of LED Driver Unit	ILED	-	560	784	mA	VLED=12V B/L=420mA
Enable voltage	EN	2	3.3	5.5	V	-
PWM signal Low voltage	VPWML	0	-	0.4	V	-
PWM signal High voltage	VPWMH	1.5	-	5	V	-
PWM frequency	fPWM	100	-	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

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9. Block Diagram

9.1 TFT-LCD Module with Backlight Unit



10. Input / Output Terminals Pin Assignment

10.1 TFT-LCD Module

Connector: J2, IPEX 20455-030E-99 or equivalent

No.	Symbol	I/O	Description
1	N.C.	-	Not Connection
2	GND	I	Ground
3	DP1-	I	Main Link Lane 1- Input
4	DP1+	I	Main Link Lane 1+ Input
5	GND	I	Ground
6	DP0-	I	Main Link Lane 0- Input
7	DP0+	I	Main Link Lane 0+ Input
8	GND	I	Ground
9	AUX+	I/O	AUX Channel Differential Input/Output
10	AUX-	I/O	AUX Channel Differential Input/Output
11	GND	I	Ground
12	VCC	I	Power supply
13	VCC	I	Power supply
14	N.C.	-	Not Connection
15	GND	I	Ground
16	GND	I	Ground
17	HPD	O	Hot Plug Detect
18	GND	I	Ground
19	GND	I	Ground
20	GND	I	Ground
21	GND	I	Ground
22	EN	I	Backlight enable pin
23	PWM	I	Backlight adjust
24	N.C.	-	Not Connection
25	N.C.	-	Not Connection
26	VLED	I	LED driver power supply
27	VLED	I	LED driver power supply
28	VLED	I	LED driver power supply
29	VLED	I	LED driver power supply
30	N.C.	-	Not Connection

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12. Optical Characteristics

The optical characteristics should be measured in a dark environment (≤ 1 lux) or equivalent state with the methods shown in Note (4).

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit	Note
Contrast Ratio		CR	$\theta_x=0^\circ, \theta_y=0^\circ$ Viewing Normal Angle	560	(700)	-	-	(2)
Response Time		T_R		-	10	20	ms	(3)
		T_F		-	15	30	ms	
Luminance(Center)		Y		1200	(1400)	-	cd/m ²	(4)
Brightness uniformity		BUNI		70	(75)	-	%	(5)
Color Chromaticity	Red	Rx		0.576	0.626	0.676	-	(1),(4)
		Ry		0.275	0.325	0.375	-	
	Green	Gx		0.278	0.328	0.378	-	
		Gy		0.498	0.548	0.598	-	
	Blue	Bx		0.086	0.136	0.186	-	
		By		0.091	0.141	0.191	-	
	White	Wx		0.26	0.31	0.36	-	
		Wy		0.28	0.33	0.38	-	
Viewing Angle	Horizontal	θ_{x+}	CR $\geq$ 10	75	(80)	-	deg.	(1),(4)
		θ_{x-}		75	(80)	-		
	Vertical	θ_{y+}		75	(80)	-		
		θ_{y-}		75	(80)	-		

16.Outline Drawing

