Product Specification For LCD Module

(KVPF-7B-002-16)

Model NO. : VGG804822-6UFLWI(RoHS)

REVISION : 6

□APPROVAL FOR SPECIFICATIONS ONLY

■APPROVAL FOR SPECIFICATIONS AND SAMPLE

CUSTOMER :	APPROVED BY :
STD.	

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4. Application

This specification is applied to the 7 inch WVGA supported TFT-LCD module With projected capacitive touch (PCT) and can display true 262,144 colors(6 bit/ color). 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 7”TFT-LCD panel, a driver circuit and backlight unit and used as the input devices for general electric appliances via both finger and Capacitive stylus pen.

5. Features

- WVGA (800×480 pixels) resolution.
- Digital 18 bit parallel RGB.
- Dot inversion mode with stripe type.
- Projected Capacitive Touch
  - I^2C Interface
  - Multi Touch (Ten points)
  - 2048 x 2048 resolution

6. General Specifications

Item	Specifications	Unit
Screen Size	7 (Diagonal)	inch
Display Format	800RGB(H)×480(V)	dot
Active Area	152.4(H)×91.44(V)	mm
Pixel Size	0.0635(H)×0.1905(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	TN Type / Transmissive Mode / Normally White	-
Surface Treatment	Clear(7H)	-
Viewing Direction	6 O’clock (The Gray Inversion will appear at this direction)	-
Outline Dimension	166.6(W)×109.4(H)×11.15(D)	mm
Weight	（219）	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

(Ta=25±2°C, GND=V_{SS}=0V)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Digital Power Supply Voltage	V_{CC}	-0.3	4.3	V	-

7.2.2 Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Current of Backlight Unit	I_B	-	250	mA	(1)
Voltage of Backlight Unit	V_B	-	15	V	(1)

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

8. Electrical Characteristics

8.1 TFT-LCD Module

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	V_{CC}	3.0	3.3	3.6	V	-
Power Supply Current	I_{CC}	-	190	266	mA	(1)
Input High Threshold Voltage	V_{IH}	0.7V_{CC}	-	V_{CC}	V	-
Input Low Threshold Voltage	V_{IL}	0	-	0.3V_{CC}	V	-
Power Consumption	P_L	-	627	877.8	mW	(1)
VSYNC Frequency	F_V	-	60	-	Hz	-
DCLK Frequency	DCLK	-	33.26	-	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

8.2 Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Current of Backlight Unit	I_B	-	200	-	mA	-
Voltage of Backlight Unit	V_B	-	9.9	-	V	I_B =200mA,(2)
LED Life Time(25℃)	-	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

Note (2)：The BLU is driven by constant current, the voltage value is for reference only.

8.3 Projected Capacitive Touch

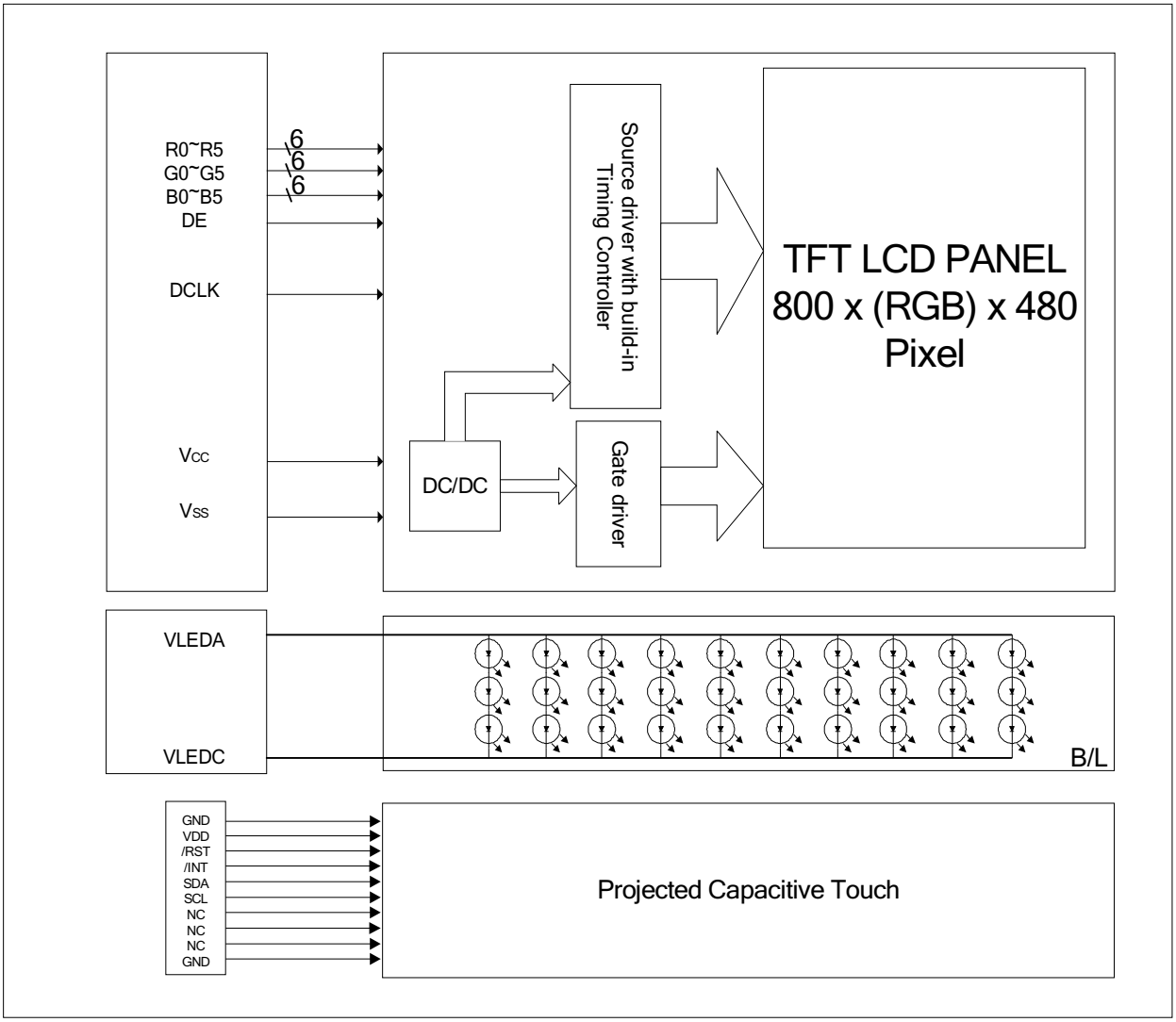
(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	V_{TP}	3.0	3.3	3.6	V	-
Power Supply Current	I_{TP}	-	12.4	17.4	mA	(1)
Input High Threshold Voltage	V_{IH}	$0.7V_{TP}$	-	V_{TP}	V	-
Input Low Threshold Voltage	V_{IL}	-0.3	-	$0.3V_{TP}$	V	-
Output High Threshold Voltage	V_{OH}	$0.7V_{TP}$	-	-	V	-
Output Low Threshold Voltage	V_{OL}	-	-	$0.3V_{TP}$	V	-
Power Consumption	P_L	-	40.9	57.3	mW	@3.3V
Report Rate	R_R	-	60	-	Hz	-
Interface		I^2C				-
Function		Multi Touch				-
IC Type		FT7811				-
FW Version		VIM07016-INA_10P_20210505_V5.0				-

Note (1) This test condition is touched with 10 points.

9. Block Diagram

9.1 TFT-LCD Module with Backlight Unit



10. Input / Output Terminals Pin Assignment

10.1 TFT-LCD Module

Connector: JAE FA5B040HP1

Pin No.	Symbol	I/O	Description
1	V_{CC}	I	+3.3V power supply
2	V_{CC}	I	+3.3V power supply
3	V_{CC}	I	+3.3V power supply
4	V_{CC}	I	+3.3V power supply
5	NC	I	No Connect
6	DE	I	Input data enable control
7	V_{SS}	I	Ground
8	NC	I	No Connect
9	V_{SS}	I	Ground
10	NC	I	No Connect
11	V_{SS}	I	Ground
12	B5	I	Blue data(MSB)
13	B4	I	Blue data
14	B3	I	Blue data
15	V_{SS}	I	Ground
16	B2	I	Blue data
17	B1	I	Blue data
18	B0	I	Blue data(LSB)
19	V_{SS}	I	Ground
20	G5	I	GREEN data(MSB)
21	G4	I	GREEN data
22	G3	I	GREEN data
23	V_{SS}	I	Ground
24	G2	I	GREEN data
25	G1	I	GREEN data
26	G0	I	GREEN data(LSB)
27	V_{SS}	I	Ground
28	R5	I	RED data(MSB)
29	R4	I	RED data
30	R3	I	RED data

Pin No.	Symbol	I/O	Description
31	V_{SS}	I	Ground
32	R2	I	RED data
33	R1	I	RED data
34	R0	I	RED data (LSB)
35	NC	I	No Connect
36	V_{SS}	I	Ground
37	V_{SS}	I	Ground
38	DCLK	I	Dot Clock
39	V_{SS}	I	Ground
40	V_{SS}	I	Ground

10.2 Backlight Unit

Connector: JST BHSR-02VS-1(N)

Pin No.	Symbol	I/O	Description	Wire Color
1	VLEDA	I	Backlight LED Anode.	Red
2	VLEDC	I	Backlight LED Cathode.	Black

10.3 Improved Projected Capacitive Touch

Connector: CVILUX CF25101D0R0-05

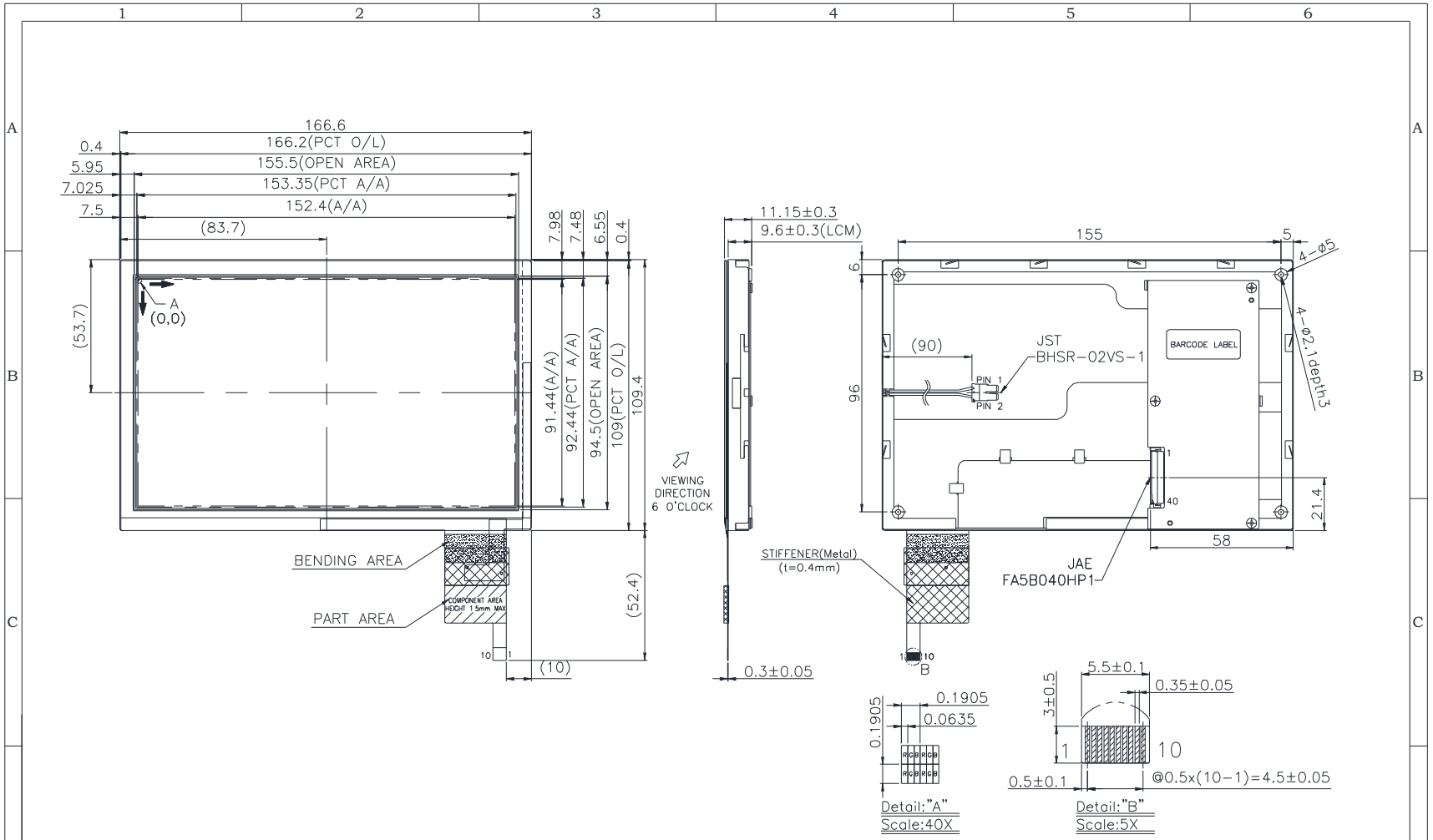
Pin No.	Symbol	I/O	Description
1	GND	I	System ground.
2	V_{TP}	I	+3.3V power supply.
3	/RST	I	External reset signal, active low.
4	/INT	O	Interrupt signal, active low, asserted to request Host start a new transcation.
5	SDA	I/O	I^2C data signal.
6	SCL	I	I^2C clock signal.
7	NC	-	Not Connection
8	NC	-	Not Connection
9	NC	-	Not Connection
10	GND	I	System ground.

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	θ_x=0°, θ_Y =0° Viewing Normal Angle	150	(250)	-	-	(2)
Response Time		T_R		-	5	10	ms	(3)
		T_F		-	15	20	ms	
Luminance(Center)		Y		380	(425)	-	cd/m^2	(4)
Brightness uniformity		BUNI		70	(75)	-	%	(5)
Color Chromaticity	Red	Rx		0.530	0.580	0.630	-	(1),(4)
		Ry		0.310	0.360	0.410	-	
	Green	Gx		0.300	0.350	0.400	-	
		Gy		0.530	0.580	0.630	-	
	Blue	Bx		0.100	0.150	0.200	-	
		By		0.090	0.140	0.190	-	
	White	Wx		0.270	0.320	0.370	-	
		Wy		0.300	0.350	0.400	-	
Viewing Angle	Horizontal	θ_x+	CR≥10	55	(65)	-	deg.	
		θ_x-		55	(65)	-		
	Vertical	θ_Y+		45	(55)	-		
		θ_Y-		55	(65)	-		

16. Outline Drawing



4				DRAWING	INO	DATE	3/14'16	MODEL	VGG804822-6UFLWI								
3				CHECK		DATE		TYPE	Assembly								
2				APPROVE		DATE		PAGE	1 OF 1								
1	INITIAL DRAWING	INO	3/14'16	TOLERANCE	.X	±0.5	.XX	±0.5	.X°	±	REV.	1	UNIT	mm	(3)		
REVISION	DESCRIPTION	REVISER	DATE	MATERIAL			Part Number				SCALE		SIZE	A4			

first FC components

MODEL NO. VGG804822-6UFLWI

SPEC SAMPLE

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