SMART DISPLAY SPECIFICATION



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SPECIFICATION

CUSTOMER : _____

MODEL NO. : WL0F00101000JGDABSA01-FC

APPROVED BY: (FOR CUSTOMER USE ONLY)	

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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VERSION	DATE	REVISED PAGE NO.	SUMMARY
A	2023/07/19	0	

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MODLE NO：
WL0F00101000JGDABSA01-FC

DOC. FIRST ISSUE

RECORDS OF REVISION

VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2023/07/19		First issue

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Summary

10.1 Inch Smart Display (RS485 series) Features

1. +12V power supply input, the power consumption is around 6W.
2. Self testing after booting function.
3. RS485 communication interface.
4. Built in flash memory, store the font and Object Dictionary Data.
5. Support capacitive touch panel (CTP).
6. Embedded buzzer controlled by Master Device.
7. Demo set HOST can be used on multiple platforms, such as Computer (with USB to RS-485 Dongle), MCU.

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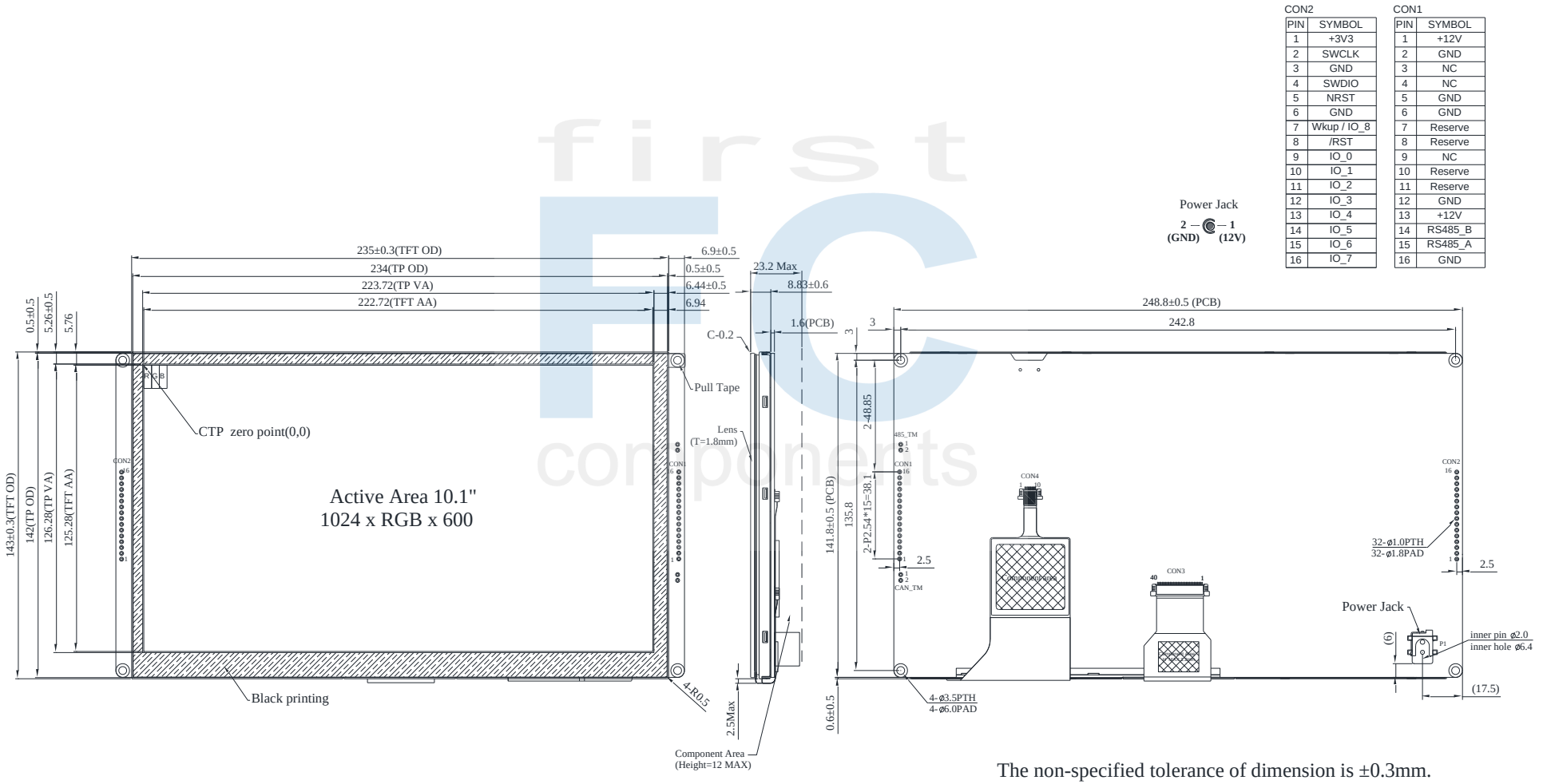
Product information

General information

Item	Standard Value	Unit
Operating voltage	12	Vdc
Communication Interface	RS485 differential ± 3.3	Vpp
MCU	STM32F746	N/A
Flash Memory	16	MB
SDRAM Frequency	166	MHz
LCD display size	10.1	inch
Dot Matrix	1024 x RGBx600(TFT)	dot
Module dimension	235(W) x 143(H) x 8.78(D)	mm
Active area	222.72 (H) x 125.28(V)	mm
Dot pitch	0.2175(W) x 0.2088(H)	mm
Brightness	Min: 800; Typ: 900	cd/m^2
LCD type	LED, Normally White	
View Direction	85/85/85/85	
Aspect Ratio	16:9	
With /Without TP	With CTP	
Surface	Glare	

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Contour Drawing



The non-specified tolerance of dimension is ±0.3mm.

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	℃
Storage Temperature	TST	-30	—	+80	℃

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above
1. Temp. ≦60℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

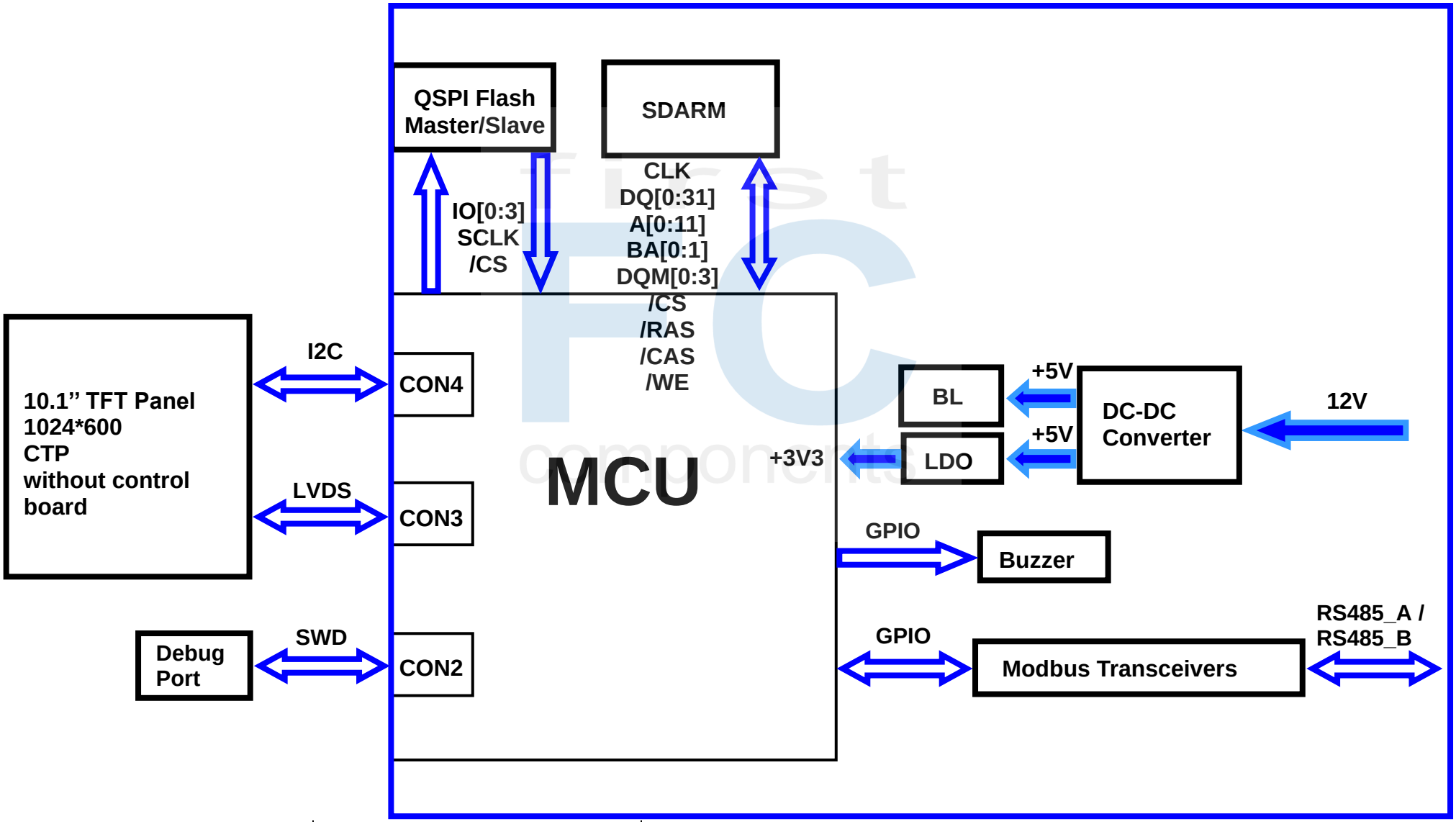
Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VCC	—	11.4	12	12.6	V
Supply LCM current	I(mA)	-	-	720	-	mA

BOM

Item	Description	Remark
LCM	WF101-1024600JL#0SP8-FC	
PCBA	SV10010R100JB00N0103	

Block diagram



Interface

CON1 definition:

Pin	Symbol	Function	Remark
1	+12V	Power supply12V input	Input
2	GND	Power supply GND input	Input
3	NC	-	-
4	NC	-	-
5	GND	Power supply GND input	GND
6	GND	Power supply GND input	GND
7	Reserve	USB_D-	Reserve
8	Reserve	USB_D+	Reserve
9	NC	-	-
10	Reserve	USART RX interface(Reserve)	Reserve
11	Reserve	USART TX interface(Reserve)	Reserve
12	GND	Power supply GND input	GND
13	+12V	Power supply12V input	Input
14	RS485_B	RS485 D-	I/O
15	RS485_A	RS485 D+	I/O
16	GND	Power supply GND input	Input

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CON2 definition:

Pin	Symbol	Function	Remark
1	+3V3	3.3V power for JTAG interface	Output
2	SWCLK	CLK pin for JTAG interface	Input
3	GND	GND for JTAG interface	Output
4	SWDIO	Data pin for JTAG interface	I/O
5	NRST	Reset pin for JTAG interface	Input
6	GND	GND	Output
7	WKup/ IO_8	Reserve	WKup,ADC,Timer,Event,I/O
8	/RST	Reserve	I
9	IO_0	Reserve	ADC,DAC,Timer,Event,I/O
10	IO_1	Reserve	ADC,Timer,Event,I/O
11	IO_2	Reserve	ADC,Timer,Event,I/O
12	IO_3	Reserve	RST,Timer,Event,I/O
13	IO_4	Reserve	RST,Timer,Event,I/O
14	IO_5	Reserve	ADC,Timer,Event,I/O
15	IO_6	Reserve	RST,Timer,Event,I/O
16	IO_7	Reserve	RST,ADC,Event,I/O

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Reliability

Content of Reliability Test (Wide temperature, -20℃~70℃)

Environmental Test			
Test Item	Content of Test	Test Condition	Note
High Temperature storage	Endurance test applying the high storage temperature for a long time.	80℃ 96hrs	2
Low Temperature storage	Endurance test applying the low storage temperature for a long time.	-30℃ 96hrs	1,2
High Temperature Operation	Endurance test applying the electric stress (Voltage & Current) and the thermal stress to the element for a long time.	70℃ 96hrs	——
Low Temperature Operation	Endurance test applying the electric stress under low temperature for a long time.	-20℃ 96hrs	1
High Temperature/ Humidity Operation	The module should be allowed to stand at 40℃,90%RH max	40℃,90%RH 96hrs	1,2
Thermal shock resistance	The sample should be allowed stand the following 10 cycles of operation -20℃ 25℃ 70℃  30min 5min 30min 1 cycle	-20℃/70℃ 10 cycles	——
Vibration test	Endurance test applying the vibration during transportation and using.	Total fixed amplitude : 1.5mm Vibration Frequency : 10~55Hz One cycle 60 seconds to 3 directions of X,Y,Z for Each 15 minutes	3
Static electricity test	Endurance test applying the electric stress to the terminal.	VS=±2KV~±6KV(contact),±2KV~±8KV (air), RS=330Ω CS=150pF 10 times	——

Note1: No dew condensation to be observed.

Note2: The function test shall be conducted after 4 hours storage at the normal Temperature and humidity after remove from the test chamber.

Note3: The packing have to including into the vibration testing.

Product inspection check list

Check samples by meter V_{IN}, I_{system}

Item	No 1	No 2	No 3	Note
V_{IN} (V)	12	12	12	
I_{System}(mA)	0.723	0.725	0.729	

Check sample Reliability Test

Item	Result	Note
Thermal shock	_	-20℃/70℃ 20 cycles
High Temperature Operation	_	70℃ 96hrs
Low Temperature Operation	_	-20℃ 96hrs
Static electricity test	_	VS=±2KV~±6KV(contact),±2KV~±8KV (air), RS=330Ω CS=150pF 10 times
Vibration test	_	Total fixed amplitude : 1.5mm Vibration Frequency : 10~55Hz One cycle 60 seconds to 3 directions of X,Y,Z for Each 15 minutes

- Prepare sets for testing

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