SMART DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
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Winstar Display Co., LTD

SPECIFICATION

CUSTOMER : _____

MODEL NO. : WL0F00101000JGAACSA00-FC

APPROVED BY: **(FOR CUSTOMER USE ONLY)**	

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
		Eason Chang	Jason Chan

VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2023/03/28		First issue

Winstar Display Co., LTD	MODLE NO : WL0F00101000JGAACSA00-FC

RECORDS OF REVISION			DOC. FIRST ISSUE
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Summary

10.1 Inch Smart Display (Custom CAN ID series) Features

1. +12V power supply input, the power consumption is around 6W.
2. Self testing after booting function.
3. CAN bus communication interface.
4. Supports Custom CAN ID protocol. Default baud rate is at 250KB.
5. Built in flash memory, store the font and Object Dictionary Data.
6. Support capacitive touch panel (CTP).
7. Embedded buzzer controlled by Master Device.
8. Demo set HOST can be used on multiple platforms, such as Computer (with USB to CAN Dongle), MCU, Raspberry Pi (with PiCAN2).

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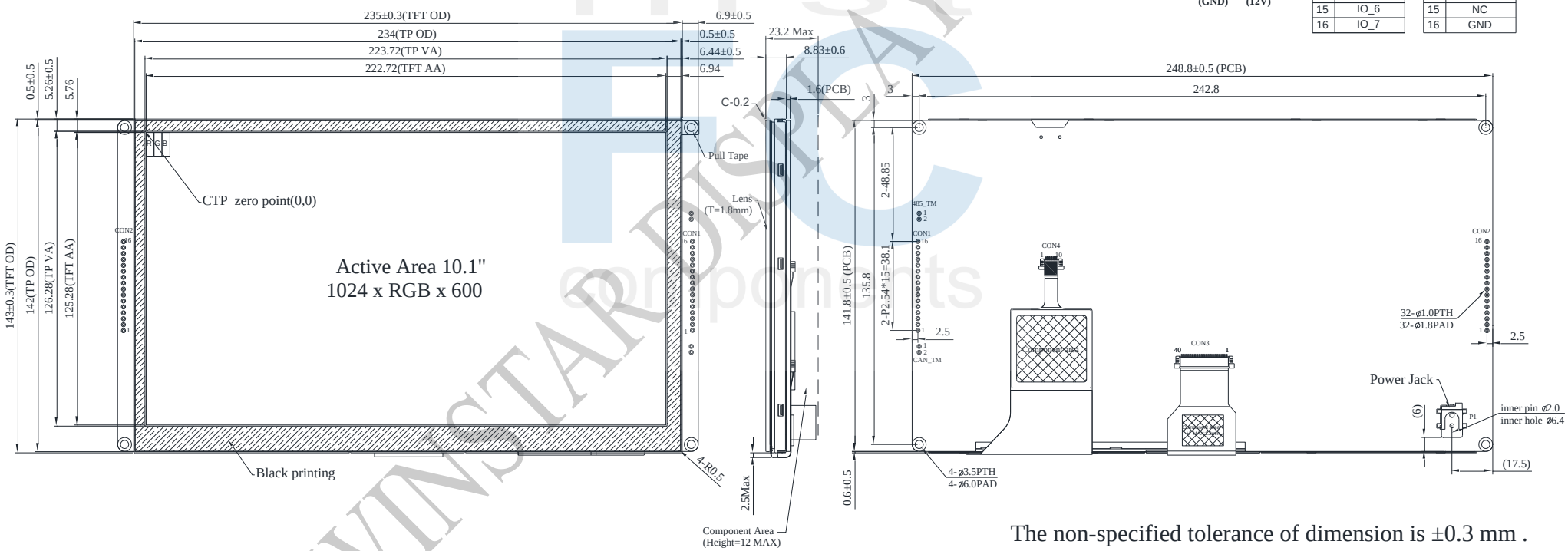
Product information

General information

Item	Standard Value	Unit
Operating voltage	8V~28V dynamic	Vdc
Communication Interface	CAN bus 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:300; Typ:400	
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



Power Jack

2 — 1

(GND) (12V)

CON2

PIN	SYMBOL
1	+3V3
2	SWCLK
3	GND
4	SWDIO
5	NRST
6	GND
7	Wkup / IO_8
8	/RST
9	IO_0
10	IO_1
11	IO_2
12	IO_3
13	IO_4
14	IO_5
15	IO_6
16	IO_7

CON1

PIN	SYMBOL
1	+12V
2	GND
3	CAN_H
4	CAN_L
5	GND
6	GND
7	Reserve
8	Reserve
9	NC
10	Reserve
11	Reserve
12	GND
13	+12V
14	NC
15	NC
16	GND

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

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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℃

6. Electrical Characteristics

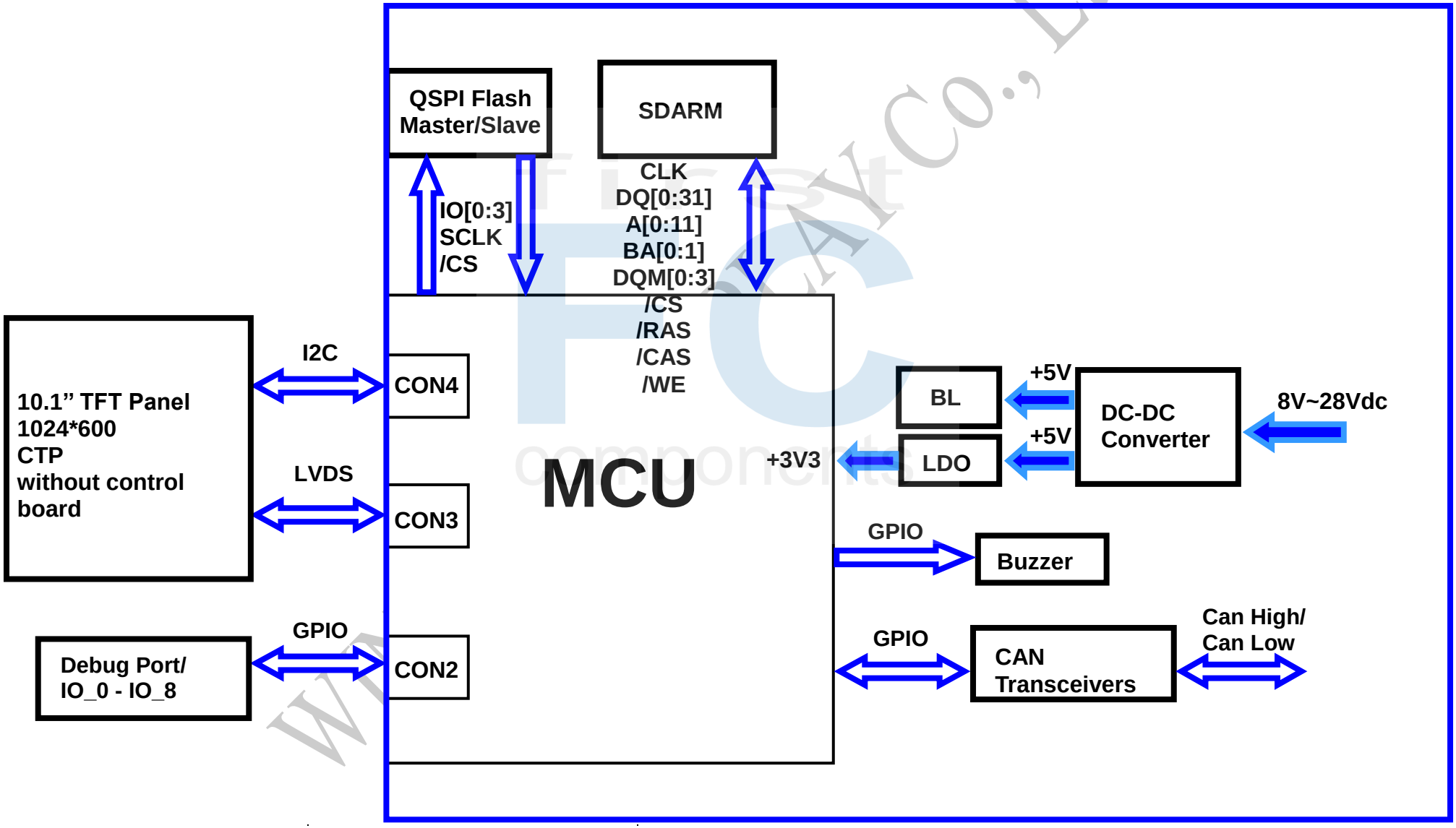
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VCC	—	11.4	12	12.6	V
Supply LCM current	I(mA)	-	-	530	-	mA

7. BOM

Item	Description	Remark
LCM	WF101JTYAHLNB0#	
PCBA	SV10010R100JB00N0100	

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8. Block diagram



Interface

CON1 definition:

Pin	Symbol	Function	Remark
1	+12V	Power supply12V input	Input
2	GND	Power supply GND input	Input
3	CAN_H	CAN bus D+	I/O
4	CAN_L	CAN bus D-	I/O
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	NC	-	-
15	NC	-	-
16	GND	Power supply GND input	Input

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CON2 definition:

Pin	Symbol	Function	Remark
1	VDD3V	3.3V power for JTAG interface	Output
2	JTAG_SWCLK	CLK pin for JTAG interface	Input
3	GND	GND for JTAG interface	Output
4	JTAG_SWDIO	Data pin for JTAG interface	I/O
5	NRST	Reset pin for JTAG interface	Input
6	GND	GND	Output
7	Wkup/ IO_8	(PA0) for system Resume from suspend (Reserve)	WKup,ADC,Timer,Event,I/O
8	/RST	Reset (active Low)	I
9	IO_0	ADC,DAC,Timer,Event,I/O	PA5
10	IO_1	ADC,Timer,Event,I/O	PA6
11	IO_2	ADC,Timer,Event,I/O	PA7
12	IO_3	RST,Timer,Event,I/O	PA8
13	IO_4	RST,Timer,Event,I/O	PC13
14	IO_5	ADC,Timer,Event,I/O	PB11
15	IO_6	RST,Timer,Event,I/O	PA15
16	IO_7	RST,ADC,Event,I/O	PD11

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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℃ 200hrs	2
Low Temperature storage	Endurance test applying the low storage temperature for a long time.	-30℃ 200hrs	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℃ 200hrs	———
Low Temperature Operation	Endurance test applying the electric stress under low temperature for a long time.	-20℃ 200hrs	1
High Temperature/ Humidity Operation	The module should be allowed to stand at 40℃,90%RH max	60℃,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=±600V(contact) ,±800v(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.

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Product inspection check list

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

Item	No 1	No 2	No 3	Note
V_{IN} (V)	12.1	12.1	12.1	
I_{System}(mA)	0.533	0.535	0.537	

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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