SMART DISPLAY SPECIFICATION

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SPECIFICATION

CUSTOMER : Winstar

MODEL NO. : WLEP02566400DGAAASA00

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

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VERSION	DATE	REVISED PAGE NO.	SUMMARY
D	2023/11/22	4 13-20	Control SW usage in different document so remove SW usage in this SPEC

MODLE NO：
WLEP02566400DGAAASA00

RECORDS OF REVISION			DOC. FIRST ISSUE
VERSION	DATE	REVISED PAGE NO.	**SUMMARY**
A	2022/01/26		First issue
B	2022/04/15	13	Modify SW descriptions
C	2023/04/11	7	Remove extra module info.
D	2023/11/22	4 13-20	Control SW usage in different document so remove SW usage in this SPEC

Contents

1. Smart Display Classification Information

W	L	EP	025664	00D	G	A	AA	S	A	00
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

①	W: WINSTAR products			
②	Type: L:Standard K:Customization			
③	Display Type:	Standard:	0H: Character STN 0X: Graphic STN (TAB/COF) 0F: TFT EH: Character OLED EX: OLED (TAB/COF)	0G: Graphic STN 0P: Graphic STN (COG) EG: Graphic OLED EP: OLED (COG)
		Customization:	DH: Character DN: Graphic ED: OLED	DG: Graphic STN 0J: TFT
④	Display size: (diagonal) / Display format: (resolution)	Character STN: Graphic STN:	e.g., 8x1: 000801 16x2: 001602 24x4: 002404 e.g., 128x64: 012864 320x240: 320240	
		TFT Size (inch):	000096-0.96” / 000350-3.5” / 000430-4.3” / 000570-5.7” 000700-7.0” / 000800-8.0” / 001020-10.2” / 001210-12.1” (The last two digits are two digits after the decimal point)	
		OLED:	e.g., 128x64: 012864 Customization: 0001XX	
⑤	Serial No:	0A1 ~ 0ZZ	Customization STN: 000	

⑥	Touch Panel Type:	N: Without TP T: RTP G: CTP		
⑦	Model Interface:	A: CAN B: Bluetooth C:Controller Specified D: RS485 E: RS232 F: USART G: Logic I/O	H: HDMI R: Memory Specified P: RS422 N: Ethernet J: Analog I/O K: USB L: WIFI M: Zigbee	X: Combined Y: Proprietary interface
⑧	Interface Serial No.:	AA ~ ZZ		
⑨	Control Category:	S: Smart Display N: Non-specified E: Entry		
⑩	Special Code:	A ~ Z		
⑪	Model code:	00 ~ ZZ		

2. Summary

SmartDisplay OLED 3.55” is an OLED type display with 256x64 resolution. Here are the summaries of the feature:

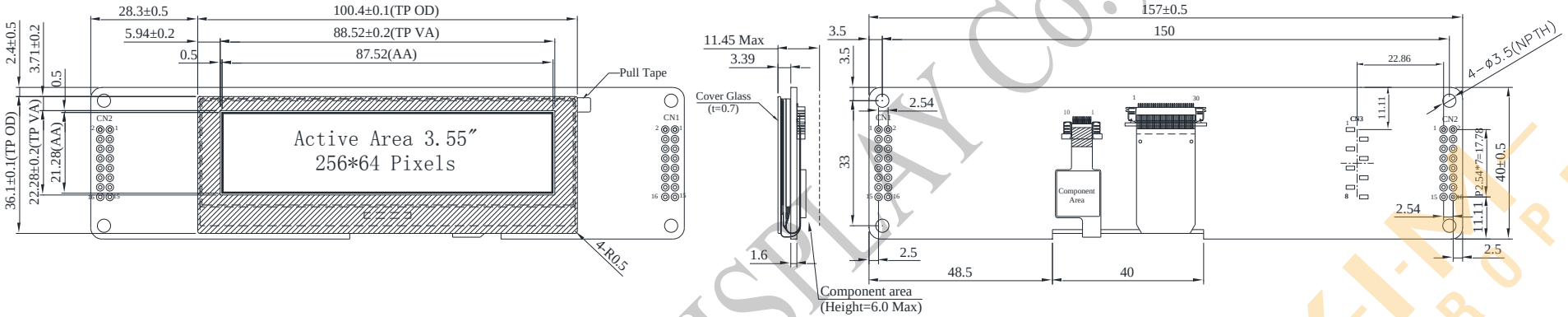
1. DC 5V working voltage.
2. Power-On Self-Test & Splash screen.
3. CAN bus Interface.
4. Supports CANopen protocol, default baud rate at 250KB.
5. Built in flash memory, store the font and Object Dictionary Data.
6. Supports PCAP touch screen.
7. Can Smart Display is defined as a slave device, which is controlled by master device via CAN bus command to render display content on the display screen and return touch event data with protocol objects.
8. Built-in Buzzer is controlled from master device.

3. Product information

General information

Item	Standard Value	Unit
Operating voltage	5	Vdc
Communication Interface	CAN bus differential ± 3.3	Vpp
MCU	STM32F750	NA
Flash Memory	16	MB
SDRAM Frequency	108	MHz
Size	3.55	inch
Dot Matrix	256 x 64	pixel
Module dimension	157.0(W) x 40.0(H) x 11.45(D)	mm
Active area	95.04 x 53.856	mm
Dot pitch	0.342 x 0.333	mm
LCD type	OLED, White color, Passive Matrix	
Drive Duty	1/64 Duty	
Gray Scale	4 bits	
With /Without TP	With CTP	
Surface	Glare	

4. Contour Drawing

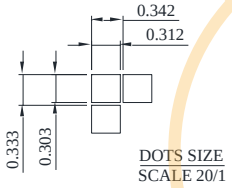


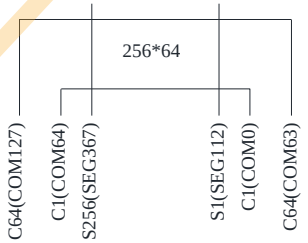
CN1

PIN	SYMBOL
1	+5V
2	DGND
3	GND
4	D-
5	CAN High
6	D+
7	CAN Low
8	+5V
9	GND
10	NC
11	GND
12	NC
13	NC
14	NC
15	NC
16	NC

CN2

PIN	SYMBOL
1	NC
2	VDD3V
3	NC
4	TAG_SWCLK
5	NC
6	GND
7	NC
8	TAG_SWDI
9	NC
10	NRST
11	NC
12	TAG_SWDO
13	DGND
14	DGND
15	+5V
16	NC





5. 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℃

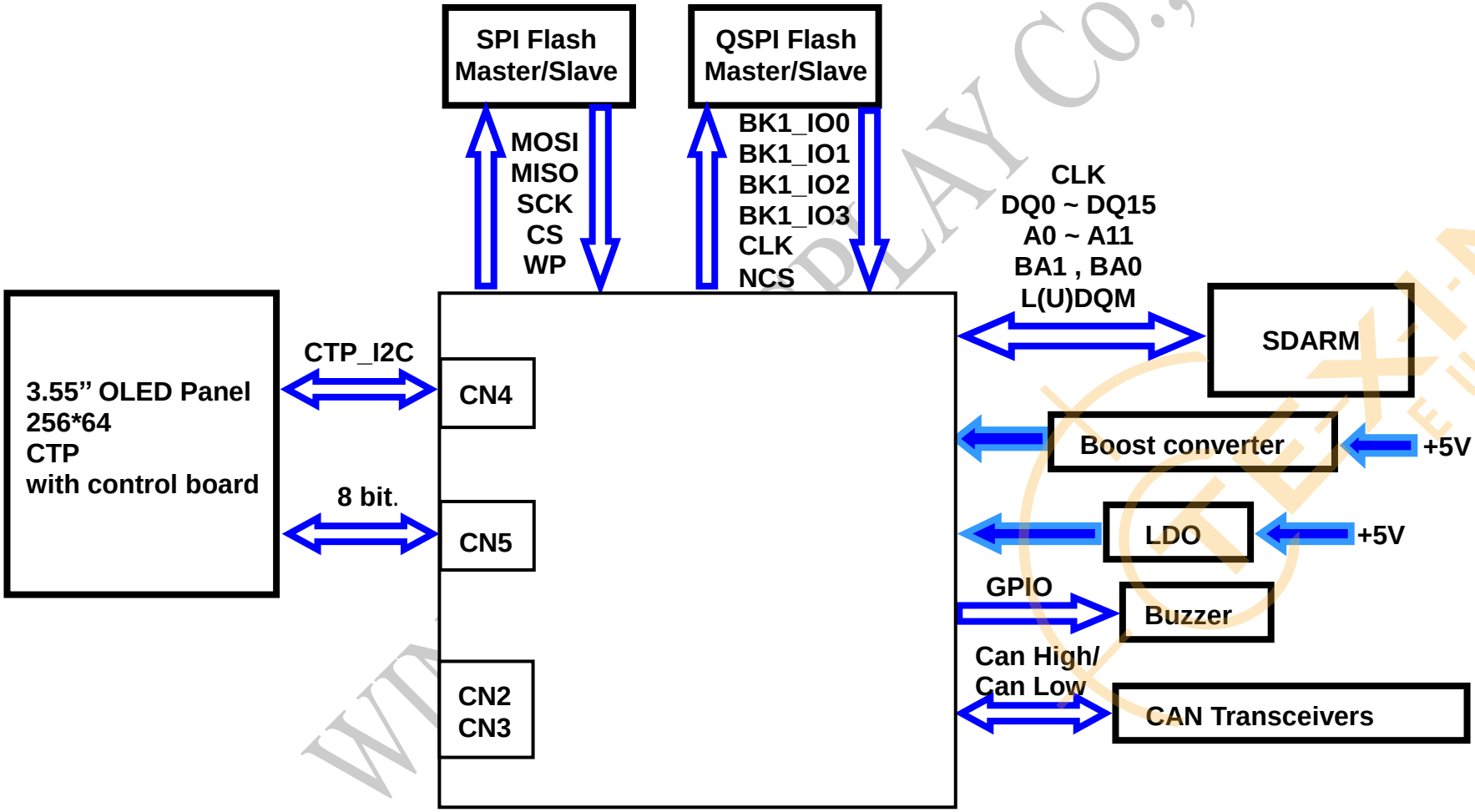
6. Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	+5V	–	4.4	5	5.6	V
Supply Product current	I (mA)	–	355	425	500	mA

7. BOM

Item	Description	Remark
LCM	WEO025664DWPP3D00000	
PCBA	SV102566400DA00N0100	

8. Block diagram



9. Interface

CN1 definition:

Pin	Symbol	Function	Remark
1	+5V	Power supply 5V input	Input
2	DGND	Reserved	Output
3	GND	Power supply GND input	Input
4	D-	Reserved	I/O
5	CAN High	CAN bus D+	I/O
6	D+	Reserved	I/O
7	CAN Low	CAN bus D-	I/O
8	+5V	Reserved	Output
9	DGND	Reserved	Output
10	NC	Reserved	
11	DGND	Reserved	Output
12	NC	Reserved	
13	NC	Reserved	
14	NC	Reserved	
15	NC	Reserved	
16	NC	Reserved	

CN2 definition:

Pin	Symbol	Function	Remark
1	NC	Reserved	
2	VDD3V		Input
3	NC	Reserved	
4	TAG_SWCLK		
5	NC	Reserved	
6	GND		
7	NC	Reserved	
8	TAG_SWDI		
9	NC	Reserved	
10	NRST		
11	NC	Reserved	
12	TAG_SWDO		
13	DGND		
14	DGND		
15	+5V		Input
16	NC	Reserved	

10. Reliability

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

Environmental Test			
Test Item	**Content of Test**	**Test Condition**	**Applicable Standard**
High Temperature Operation	Endurance test applying the electric stress (Voltage & Current) and the thermal stress to the element for a long time.	70°C 240hrs	___
Low Temperature Operation	Endurance test applying the electric stress under low temperature for a long time.	-20°C 240hrs	___
High Temperature/ Humidity Operation	Endurance test applying the high temperature and high humidity Operation for a long time.	60°C,90%RH 96hrs	___
Temperature Cycle	**Endurance test applying the low and high temperature cycle.** **-20°C 25°C 70°C** **30min 5min 30min** 1 cycle	-20°C /70°C 10 cycles	___
Mechanical Test			
Vibration test	Endurance test applying the vibration during transportation and using.	Frequency:10~55Hz amplitude:1.5mm Time:0.5hrs/axis Test axis:X,Y,Z	___
Others			
Static electricity test	Endurance test applying the electric stress to the finished product housing.	VS=±2KV~±6KV(contact),±2KV~±8KV (air), RS=330Ω CS=150pF 10 times	___

*** Supply voltage for OLED system =Operating voltage at 25℃

Test and measurement conditions

1. All measurements shall not be started until the specimens attain to temperature stability. After the completion of the described reliability test, the samples were left at room temperature for 2 hrs prior to conducting the failure test at 23±5°C; 55±15% RH.
2. All-pixels on/off exchange is used as operation test pattern.
3. The degradation of Polarizer are ignored for High Temperature storage, High Temperature/ Humidity Storage, Temperature Cycle

Evaluation criteria

1. The function test is OK.
2. No observable defects.
3. Luminance: > 50% of initial value.
4. Current consumption: within ± 50% of initial value.

11. References

Sample code for Arduino Mega 2560

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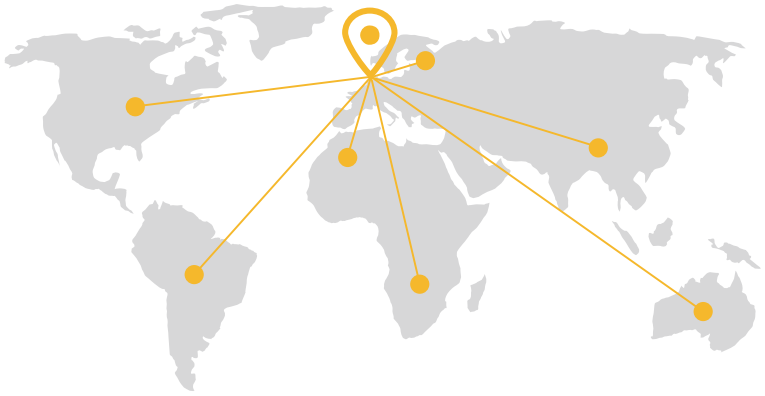

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