DMG32240F020_05WN

Features:

- **Powered by T5F0 ASIC, running DGUS II HMI platform.**
- **2.0-inch, 240*320 resolution, IPS-TFT LCD.**
- **20 pins, including UART2, SD card, Buzzer, touch screen interface.**
- **Supporting connected to 4-wire RTP, CTP, buzzer or speaker.**

1. External interface

PIN#	Definition1	Function1	Definition2	Function2
1	VIN	Power supply, DC3.3-5.5V. IO are all at 3.3V CMOS level.		
2	VIN			
3	GND	GND		
4	GND			
5	GND			
6	3.3V	3.3V output, maximum load of 100mA.		
7	TX2	UART2		
8	RX2			
9	SD_D0	When JIOS is in the air, SD card interface.	TMS	When JIOS is shorting circuit to ground, JTAG interface.
10	SD_D1		TCK	
11	SD_D2		TDI	
12	SD_D3		TDO	
13	SD_CLK		TX1	Multiplexed UART1
14	SD_CMD		RX1	
15	TPY1	4-wire resistive touch screen interface	CTP_SDA	Capacitive touch screen interface. When connected to CTP, the CTP_SDA and CTP_INT need to be pulled up to 3.3V by an external 4.7K resistance.
16	TPX1		CTP_INT	
17	TPY0		CTP_SCL	
18	TPX0		CTP_RST	
19	JIOS	JTAG/IO choose		
20	BUZZ	Buzzer drives output	D/A	Audio PWM DA output

2. Specification parameters

2.1 Product parameters

Main Chip	T5F0
User Interface	20Pin_0.5mm FCC
FLASH	8M Bytes
UI Version	DGUS II
Debugging Tools	HDL662SZ5 adapter board power supply
Size	2.0 inch
Resolution	240*320
Active Area (AA)	30.60mm (W)×40.80mm (H)
Viewing Angle	IPS viewing angle, 85°/85°/85°/85° (L/R/U/D)
Backlight Service Life	>10,000 hours
Brightness	300nit
Brightness Control	100-level brightness adjustment (Flickering may occur at 1%-30% of max brightness; not recommended for use in this range)
Note: Use dynamic screen saver to prevent afterimages from prolonged fixed page display.	

2.2 Interface parameters

Item	Conditions	Min	Typ	Max	Unit
Baud Rate	User Set(Configure the CFG file)	3150	115200	3225600	bps
Output Voltage(TXD)	Output 1	3.0	3.3	-	V
	Output 0	-	0	0.3	V
Input Voltage(RXD)	Input 1	-	-	3.3	V
	Input 0	0	-	0.5	V
Interface	UART2: TTL;				
Data Format	UART2: N81;				

2.3 Electrical specifications

Rated Power	<1W
Operating Voltage	3.3-5.5V, typical value of 5V.
Operating Current	102mA@ 5V
Recommended power supply: 5V 1A DC	

2.4 Operating environment

Operating Temperature	-10℃ to 60℃(5V @ 60% RH)
Storage Temperature	-20℃ to 70℃
Operating Humidity	10%-90%RH, typical value of 60% RH.

3. ESD Test

Test temperature: 25° C. Test humidity: 50%RH.

Test process: Place the product on the test bench fixture (approximately 15cm in height), and perform contact and air discharge tests on the smart LCM. Observe if any freezing, black or white screen, flickering, or rebooting occurs during the test.

Test conclusion: The product's ESD performance meets GB/T 17626.2 Class B standards.

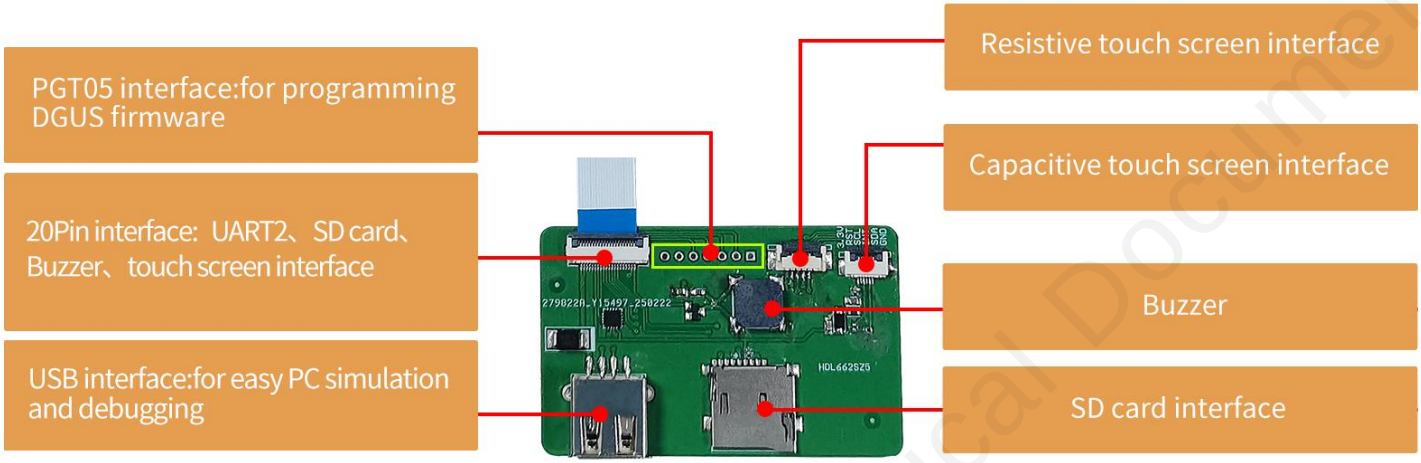
Discharge Type	Discharge Value	Result
Air discharge	±8KV	Normal operation

4. Debug

It is recommended for new users of DWIN smart LCMs to purchase official accessories. For more details, please refer to customer service center.

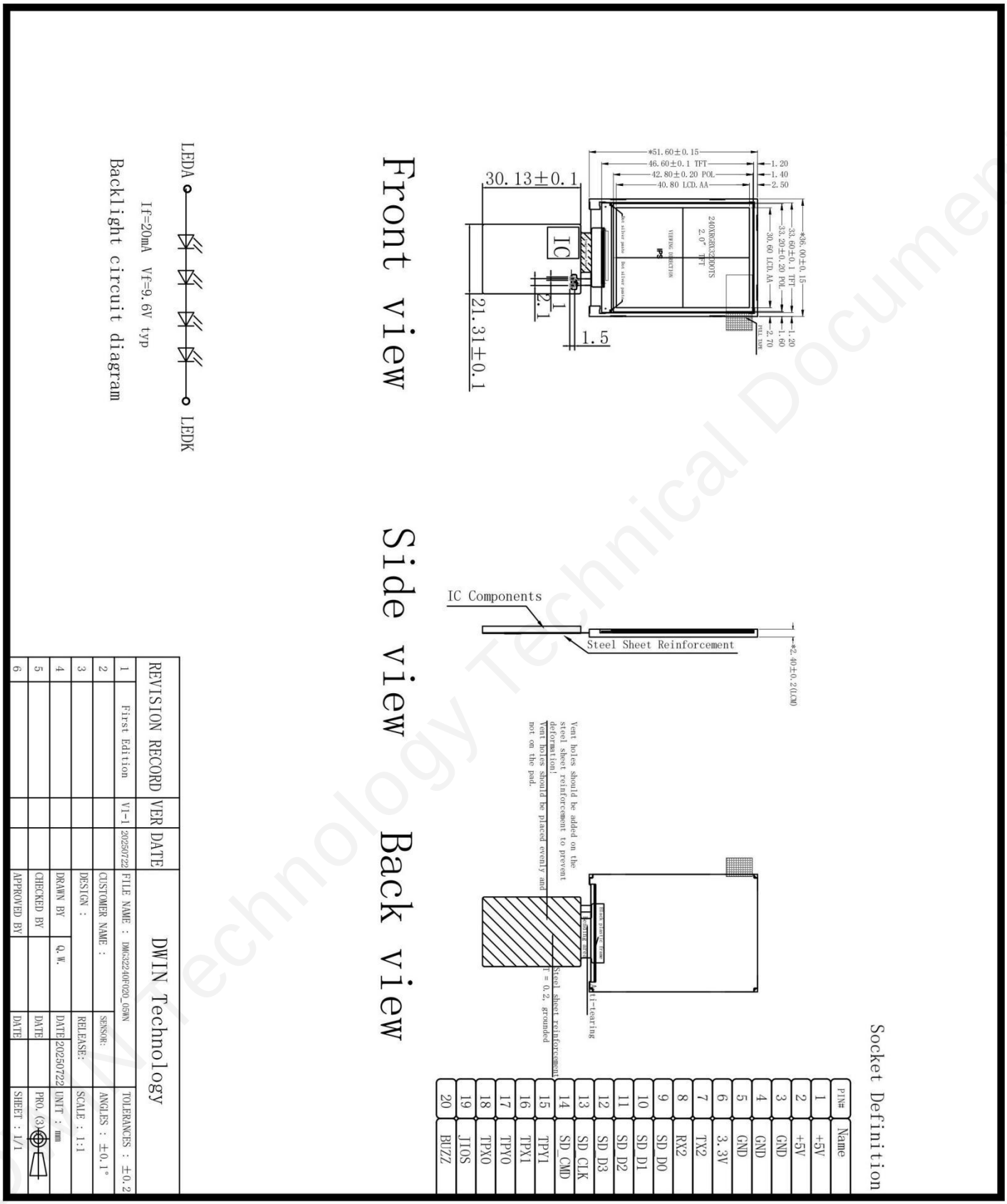
Adapter board model: HDL662SZ5

Connecting cables: FCC20_0.5, L=50mm(B03692)



5. Packing capacity & dimension

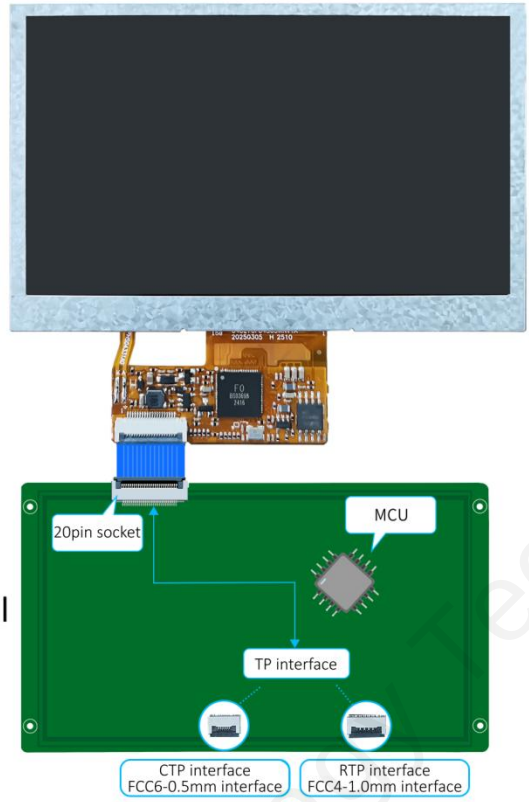
Dimension				
Dimension	36.00(W) ×51.60 (H) ×2.40(T) mm			
Net Weight	10g			
Packing Capacity				
Model	**Dimensions**	**Layer**	**Quantity/Layer**	**Quantity(Pcs)**
Carton1:	220mm(L)×160mm(W)×47mm(H)	1	4	4
Carton2:	250mm(L)×200mm(W)×80mm(H)	1	8	8
Carton3:	320mm(L)×270mm(W)×80mm(H)	1	16	16
Carton4:	455mm(L)×290mm(W)×240mm(H)	-	-	100



05 Series COF Screen Touch Panel Application Schematic Diagram

Touch Panel Interface Design

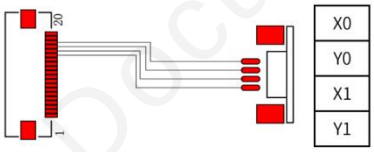
Supports resistive touch panel and capacitive touch panel. The position, type, and wire sequence of the touch panel interface can be selected and integrated according to requirements, which is extremely flexible.



Customer Main Control Board

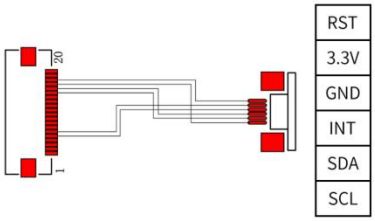
RTP Circuit Design Diagram

Pin	Name
18	TPX0
17	TPY0
16	TPX1
15	TPY1



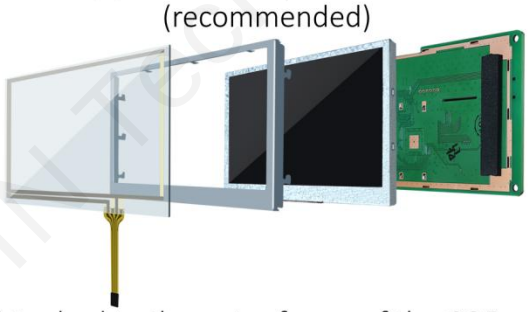
CTP Circuit Design Diagram

Pin	Name
18	CTP-RST
17	CTP-SCL
16	CTP-INT
15	CTP-SDA
6	3.3V OUT
5	GND



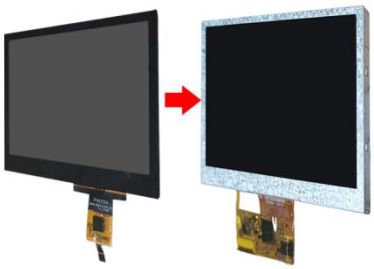
Touch Panel Assembly Methods

(1) Fixed with an iron frame (recommended)



(2) Attached to the body enclosure (recommended)

(3) Attached to the outer frame of the COF screen



(4) OCA bonding with optical adhesive

6. Revision records

Rev	Revise Date	Content	Editor
00	2025-08-13	First Edition	Xu Ying

Please contact us if you have any questions about the use of this document or our products, or if you would like to know the latest information about our products:

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Thank you all for continuous support of DWIN, and your approval is the driving force of our progress!

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