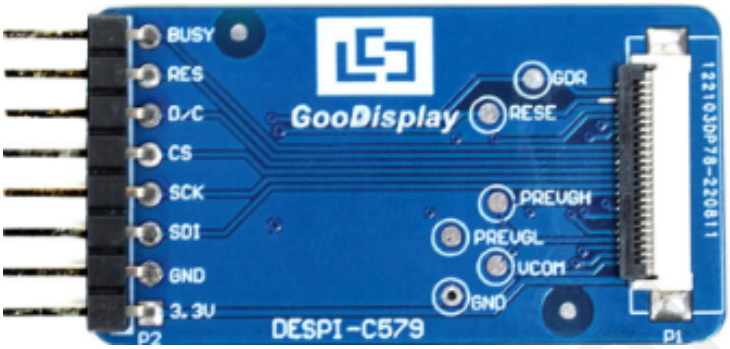
# Adapter Board for 5.79 inch E-Paper Display DESPI-C579

Dalian Good Display Co., Ltd.

# Product Specifications

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|---|---|
| **Customer** | **Standard** |
| **Description** | **Adapter Board For E-paper Display** |
| **Model Name** | **DESPI-C579** |
| **Date** | **2022/10/17** |
| **Revision** | **1.0** |

| | Design Engineering | | |
|---|---|---|---|
| | **Approval** | **Check** | **Design** |
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# Contents

## 1.Overview

This adapter is specially designed for 5.79 inch SPI e-paper display, support boost drive function of 5.79 inch e-paper display GDEY0579T93 and GDEY0579Z90.

## 2. Specification

| Parameter | Specification |
|---|---|
| Model | DESPI-C579 |
| Platform | STM32, Arduino |
| Dimension | 41mm x 22mm |
| Power Supply | 3.3V |
| Example Code | Available |
| Operating Temp. | -20℃~70℃(-4℉~158℉ ) |
| Main Function | Provide driving voltage for E-paper display;<br>Provide E-paper display communication interfac e for maincontrol board;<br>Help users learn to use E-paper display |
| Additional Function | E-paper display power consumption measurement, E-paper working state detection |

## 3. Diagram

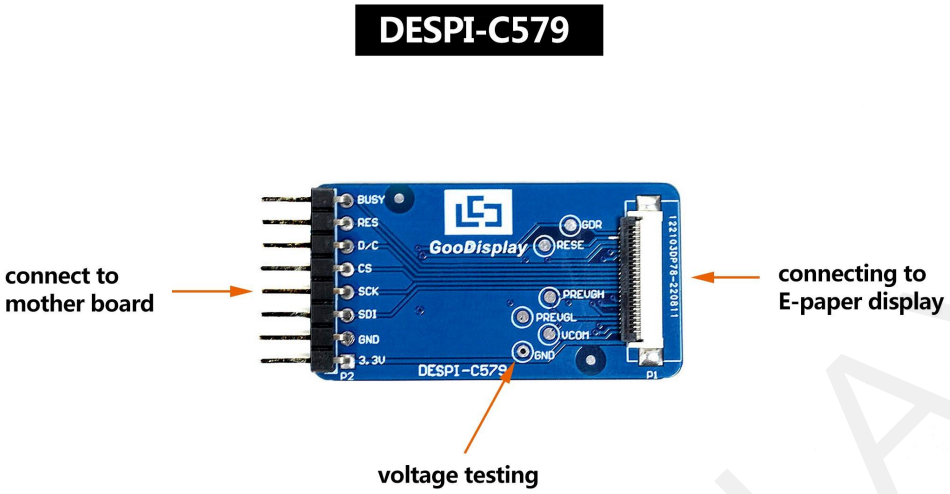



Figure 1 DESPI-C579

3.1.Pin Definition

1) BUSY：Electronic paper busy signal. When the electronic paper screen is refreshed, BUSY pin sends a busy signal to MCU, at this time, MCU cannot read or write the electronic paper drive IC; When the electronic paper is refreshed, BUSY pin sends the idle status signal, and MCU can read and write the electronic paper drive IC. Busy state of BUSY pin is low level, idle state is high level.

2) RST ：Electronic paper reset signal, valid at low level.

3) DC ：Data/command read/write selection, high level is data, low level is command.

4) CS ：Chip selection, active at low level.

5) SCL ：SPI serial communication clock signal line.

6) SDA ：SPI serial communication data signal line.

7) GND ：Negative pole of power supply.

8) VDD ：Power supply positive pole.

Note: For the IO settings in the process of programming, generally BUSY is set as the input mode, and other IO is set as the output mode.

3.2. Voltage Testing

This adapter has test points for voltage measurement, including PREVGH, PREVGL , VCOM and GND. The functions of each test point are as follows:

1) PREVGH: positive voltage of MOS tube gate pole.
2) PREVGL: MOS tube gate pole negative voltage.
3) VCOM: common terminal voltage test point of electronic paper.
4) GND: negative pole of power supply (common terminal of test point voltage).

3.3. E-paper display FPC interface

The electronic paper is connected with the adapter plate through this interface. When connecting, insert the electronic paper FPC golden finger downward to the P1 connector of the adapter board in the way shown in Figure2.

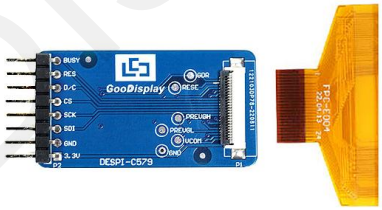
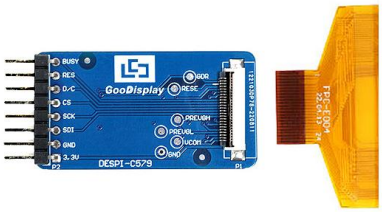
| | |
|---|---|
| (1) FPC connector |  |
| (2) Open the connector |  |
| (3) Insert the FPC |  |
| (4) Close the connector |  |

Figure 2 : Connection of E-paper display and Adapter

## 4. FAQ of Drive Circuit of E-paper Display

4.1. Self-made drive board cannot drive e-paper display

First, measure the voltage of PREVGH and PREVGL to see whether the voltage rise is successful. If the voltage boost is unsuccessful, please check whether the voltage boost part of the drive schematic diagram is correct and whether the components meet the requirements (ensure that the voltage withstand of the boost capacitor is sufficient, and if the voltage withstand is not enough, the capacitor will burn out during the voltage boost).

4.2. Selection of diode for e-paper display drive circuit

Schottky diode equivalent to MBR0530 parameters shall be selected, and the switching frequency shall meet the actual requirements.

4.3. Selection of FPC socket for e-paper display drive circuit

Select the FPC socket with 24PIN of upper contact or upper and lower contact, and the pin spacing is 0.5mm.

4.4. High current in e-paper display deep sleep mode

The high current in deep sleep mode may be caused by the large capacitance of the boost part.