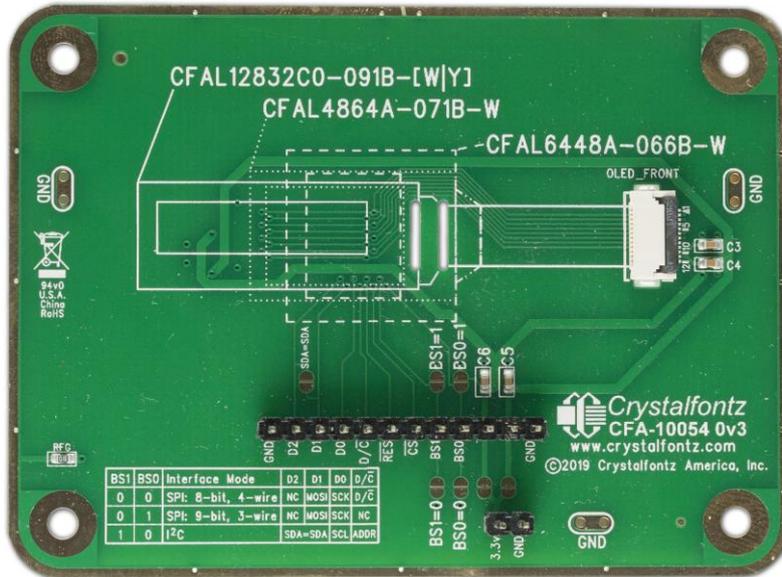




OLED BREAKOUT BOARD DATASHEET



CFA10054

Revision A0
 Datasheet Release: 2020-01-22

Compatible with:
 CFAL12832C0-091B-[W|Y]
 CFAL4864A-071B-W
 CFAL6448A-066B-W

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1. General Information

Datasheet Revision History

Datasheet Release: 2020-01-22
Datasheet for the CFA10054 breakout board

Product Change Notifications

You can check for or subscribe to [Part Change Notices](#) for this display module on our website.

Variations

Slight variations between lots are normal (e.g., contrast, color, or intensity).

Volatility

This display module has volatile memory.

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2. Introduction

This breakout / carrier board allows quick integration of many small Crystalfontz OLED displays including:

- The CFAL12832 series
- The CFAL6448 series
- The CFAL4864 series

It is designed with an FPC slot to allow mounting a compatible OLED display on either side of the PCB. This board comes fully loaded with components, replacing a previous version of the board that required component soldering and sourcing. This board includes all required capacitors, ZIF connectors, and headers pre-loaded, and includes jumpers to enable switching between different interface modes without the need for external wires.

3. Key Features

- PCB jumpers (BS0 / BS1) allow quick configuration for 3-wire SPI, 4-wire SPI, or I2C interface
- Two 12 pin 0.10" ZIF connectors enable mounting a display on the front or back
- Four 3.2mm diameter mounting holes
- Headers for easy connection



4. Header and Jumper Locations and Functions

4.1. J-HOST – Main header

J-HOST is the main header on the bottom of the demo board. This header provides 12 pins to connect the demo board (and thus the display) to a microcontroller, such as a Seeeduino (an Arduino Uno clone that switches to 3.3v). Please note that connecting the board to 5v may permanently damage both the display and the board.

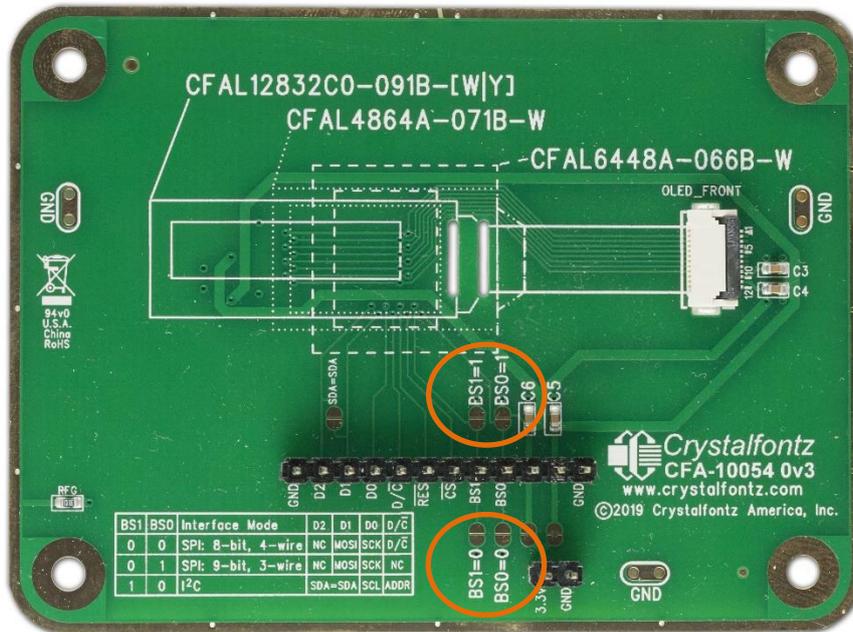
The functions below are provided for user ease, please confirm the functionality in the display datasheet.

J-HOST Connection		
Pin	Symbol	Function
1	GND	Ground
2	D2	SPI – No connection I2C – SDA, tie to D1 using jumper
3	D1	SPI – MOSI, Master Out Slave In I2C – SDA, tie to D2 using jumper
4	D0	SPI – SCK, clock I2C – SCL, clock
5	$\overline{D/C}$	4-Wire SPI : Data/Command – When high data will be interpreted as data, when low, data will be interpreted as command 3-Wire SPI : No connection I2C : Slave address pin
6	\overline{RES}	Reset
7	\overline{CS}	Chip select, active low
8	BS1	Interface select pins. The values of BS1 and BS0 can be set by these pins or by on-board jumpers.
9	BS0	
10	V _{DD}	Connected by an on-board jumper to 3.3v
11	V _{BAT}	Connected by an on-board jumper to 3.3v
12	GND	Ground



4.2. Interface Selection – BS1 and BS0

The jumpers BS1 and BS0 can control the interface. These jumpers are shipped “open” which leaves control of the interface to the BS1 and BS0 pins on J-HOST. By closing the appropriate jumpers on the board, use of external jumper wires can be avoided. Configure BS1 and BS0 as described by the table below.

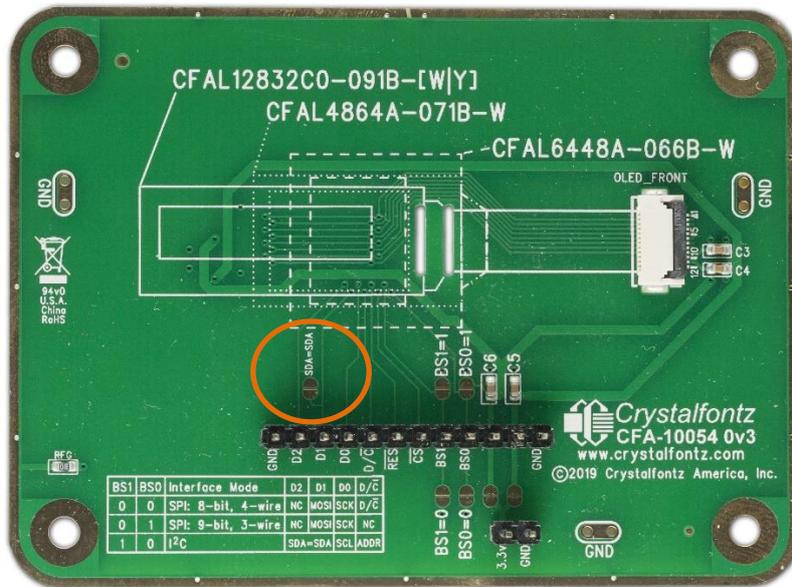


BS1	BS0	Interface	D2	D1	D0	D/C
0	0	4-Wire SPI 8-bit	NC	MOSI	SCK	D/C
0	1	3-Wire SPI 9-bit	NC	MOSI	SCK	NC
1	0	I ² C	SDA=SDA		SCL	ADDR



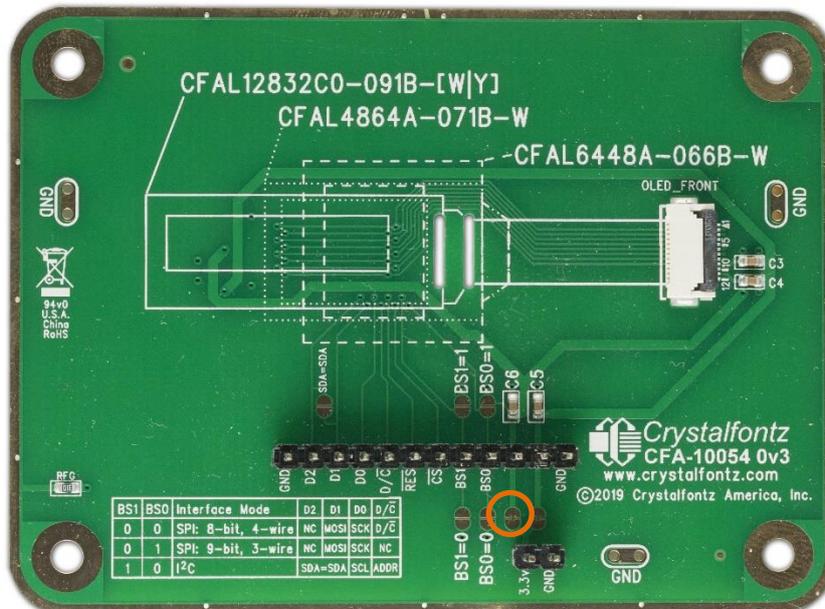
4.3. SDA Jumper – SDA=SDA

The jumper SDA=SDA ties D1 and D2 together to serve as SDA when using this breakout board in I²C. This takes the place of external wires tying these pins together.



4.4. JP_VDD

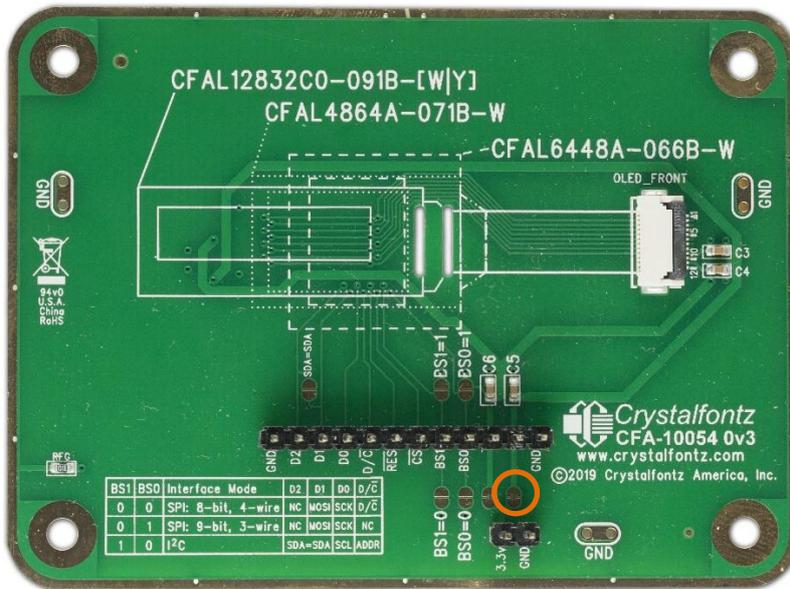
The jumper ties V_{DD} to the 3.3v supply pin so that no additional power supply needs to be connected to pin 10. This jumper ships closed, but can be opened if V_{DD} needs to be separately controlled.





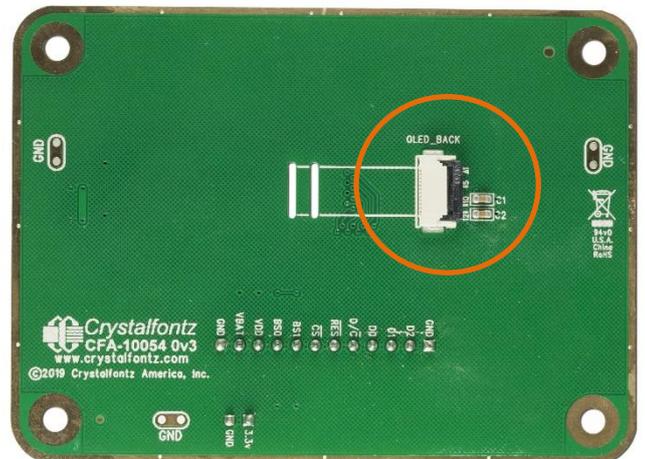
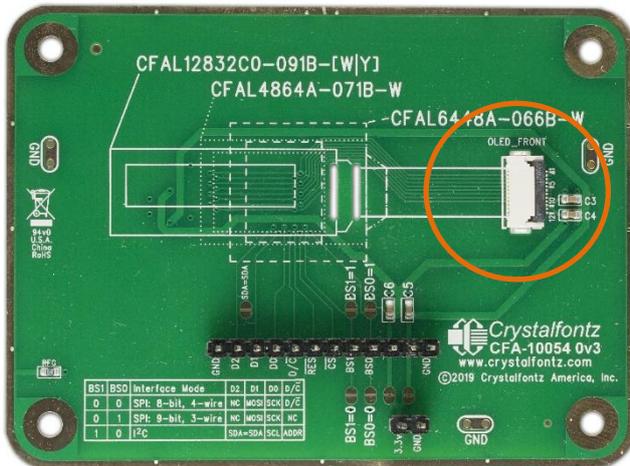
4.5. JP_VBAT

The jumper ties V_{BAT} to the 3.3v supply pin so that no additional power supply needs to be connected to pin 11. This jumper ships closed, but can be opened if V_{BAT} needs to be separately controlled.



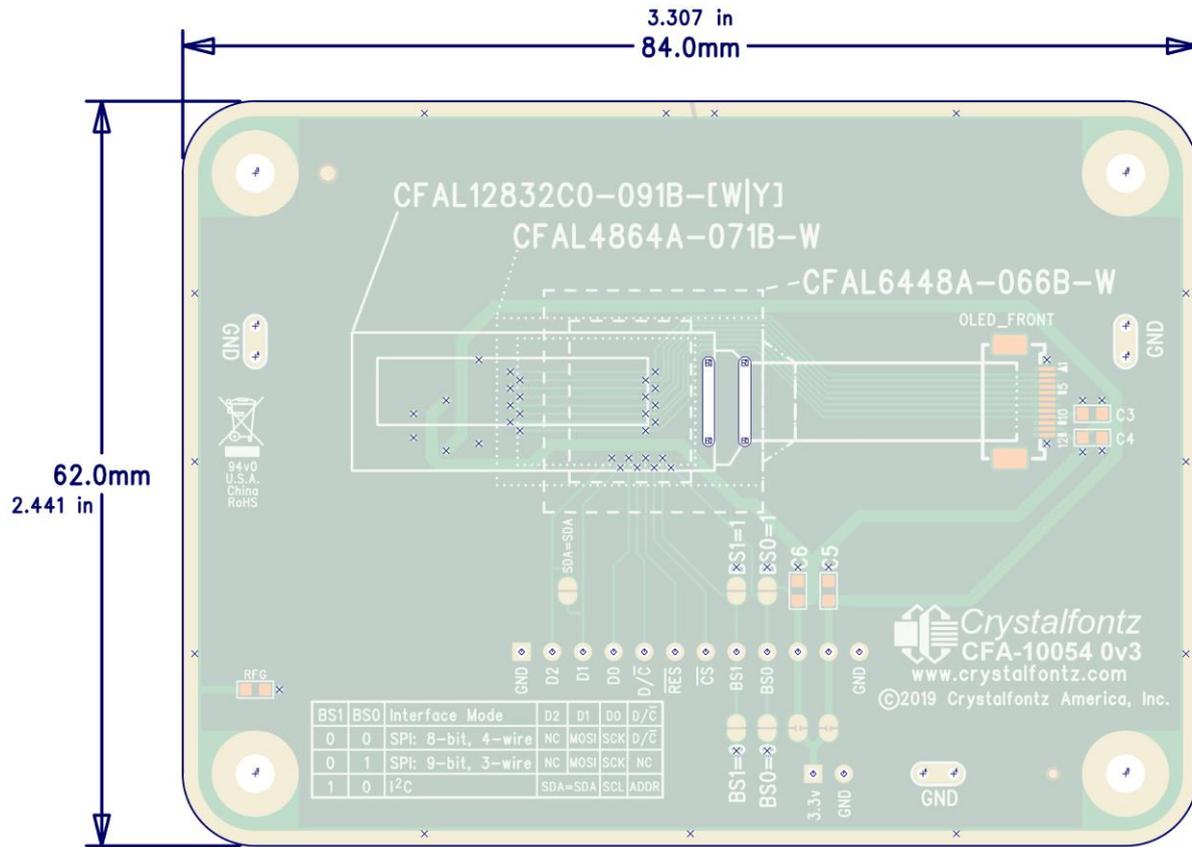
4.6. ZIF Connectors

There are two included ZIF connectors. One on the front and one on the back.





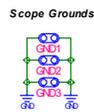
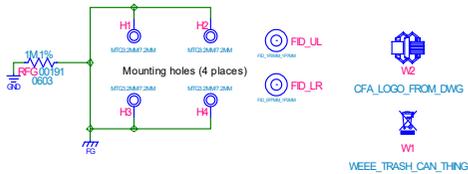
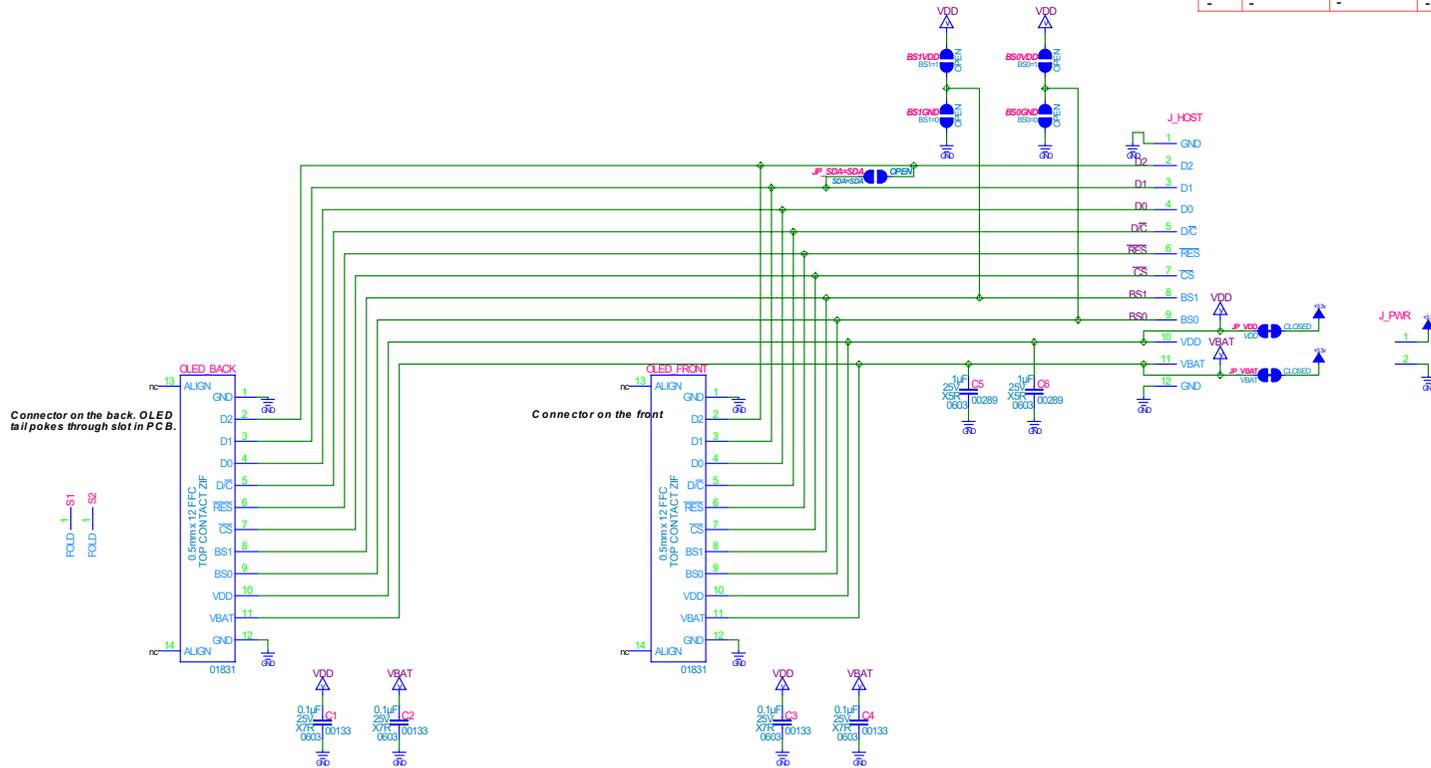
5. Dimensions





6. Schematic

REV	ENGINEER	DATE	REMARKS
0v0	BAC	2012-03-30	Initial Creation
0v1	BAC	2012-05-24	Fixed Silkscreen in PCB
0v2	BAC	2019-11-01	DianWei Connectors, BOM, Silk
0v3	BAC	2019-11-06	Closed power jumpers, add SDA=SDA
-	-	-	-



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CFA-10054: CFAL12832/CFAL6448/CFAL4864 Breakout
Page 1 / 1: Schematic
 PRODUCT NAME: **CFA-10054** PRODUCT REVISION: **0v3** PCB NUMBER: **PCB-10054** PCB REVISION: **0v3**