

<b>OLED Interface Board.</b>	
Part Number:	MCIB-13
Version:	1
Date:	26/10/2015
<b>Revision History</b>	
<b>Date</b>	<b>Description of change</b>
26/6/2015	First draft

## MCIB-13 Interface Board

### Overview & Features

The MCIB-13 is a direct Solder on OLED Character Interface Board. This can be used independently or in conjunction with MCIB-12 and UNO32 boards for easy evaluation of TAB OLED character displays.



**Figure 1. MCIB-13 Interface Board**

## Features

- 33 way 0.7mm pitch TAB OLED connector.
- 20 way 1.0mm pitch SHD connector.
- Mechanical dimensions 70 x 35 x 6 mm.
- Can be use with MCIB-12 and UNO32.

## Switch selectable:

- Enable/disable internal regulator.
- Select scanning direction for COM signal.
- Select the mapping between the display data column address and the segment driver.
- Set the appropriate character ROM.
- Set the character ROM/RAM management.
- Select the communication protocol.

## Pin compatible with the following Midas displays:

- MCOT42005AX
- MCOT22005AX
- MCOT21605AX

MIDAS

design • manufacture • supply

## Connections

MC1 Connector Pin Number	Symbol	Description
1	N.C. (GND)	Linked to Ground
2	VSL	Segment voltage reference
3	VSS	Ground
4	REGVDD	Internal Regulator
5	SHLC	COM Signal
6	SHLS	SEG Signal
7	VDD	+5V/+3.3V
8	VDDIO	+5V/+3.3V
9	BS0	MCU Interface Selection
10	BS1	MCU Interface Selection
11	BS2	MCU Interface Selection
12	GPIO	General Purpose I/O
13	#CS	Chip Select
14	RES#	Power Reset
15	D/C#	Data/Command Control
16	R/W#(WR#)	R/W Selector or Write
17	E(RD#)	R/W Enable or Read
18	D0	Data 0
19	D1	Data 1
20	D2	Data 2
21	D3	Data 3
22	D4	Data 4
23	D5	Data 5
24	D6	Data 6
25	D7	Data 7
26	IREF	Current Reference
27	ROM0	ROM Selection
28	ROM1	ROM Selection
29	OPR0	ROM/RAM Management
30	OPR1	ROM/RAM Management
31	VCOMH	Voltage Output
32	VCC	+12V
33	N.C. (GND)	Linked to Ground

**Table 2.** MC1 Connector

J1 (BM20B-SRDS-G-TF Connector) Pin Number	Symbol	Description
1	VCC	+12V
2	VDD	+3.3V
3	GND	0V
4	5V	+5V
5	GND	0V
6	#CS	Chip Select
7	E(RD#)	R/W Enable or Read
8	R/W#(WR#)	R/W Selector or Write
9	D/C#	Data/Command Control
10	D0	Data 0
11	D1	Data 1
12	D2	Data 2
13	D3	Data 3
14	D4	Data 4
15	D5	Data 5
16	D6	Data 6
17	D7	Data 7
18	RES#	Power Reset
19	DISP	Display On
20	GPIO	General Purpose I/O

**Table 3. SHD Connector**

## Configuration

Switch Selectable	Symbol	Description
1	REGVDD	Internal Regulator (Table 4)
2	SHLC	COM Signal (Table 5)
3	SHLS	SEG Signal (Table 6)
4	BS0	MCU Interface Selection (Table 7)
5	BS1	MCU Interface Selection (Table 7)
6	BS2	MCU Interface Selection (Table 7)
7	ROM0	ROM Selection (Table 8)
8	ROM1	ROM Selection (Table 8)
9	OPR0	ROM/RAM Management (Table 9)
10	OPR1	ROM/RAM Management (Table 9)

Internal Regulator	Description
0	Regulator disabled
1	Regulator Enabled

**Table 4.** Internal Regulator

SHLC	Description
0	Normal Scanning Direction
1	Reverse Scanning Direction

**Table 5.** COM Signal

SHLS	Description
0	Normal Mapping Direction
1	Reverse Mapping Direction

**Table 6.** SEG Signal

MCU Interface Selection	BS0	BS1	BS2
I2C	0	1	0
Serial	0	0	0
4-bit 68XX Parallel	1	0	1
4-bit 80XX Parallel	1	1	1
8-bit 68XX Parallel	0	0	1
8-bit 68XX Parallel	0	1	1

**Table 7.** MCU Interface Selection

ROM Selection	ROM0	ROM1
ROM A	0	0
ROM B	1	0
ROM C	0	1
Software Selectable	1	1

**Table 8.** ROM Selection

ROM/RAM Management		OPR0	OPR1
240 (CGROM)	8(CGRAM)	0	0
248(CGROM)	8(CGRAM)	1	0
250(CGROM)	6(CGRAM)	0	1
256(CGROM)	0(CGRAM)	1	1

**Table 9.** ROM/RAM Management

## Links

Solder links are provided on the PCB to enable various unused connections to be tied low.

Bus interface	Data/Command Interface								Control Signal				
	D7	D6	D5	D4	D3	D2	D1	D0	E	R/W#	CS#	D/C#	RES#
4-bit 6800	D [7 : 4]				Tie LOW				E	R/W#	CS#	D/C#	RES#
4-bit 8080	D [7 : 4]				Tie LOW				RD#	R/W#	CS#	D/C#	RES#
8-bit 6800	D [7 : 0]								E	R/W#	CS#	D/C#	RES#
8-bit 8080	D [7 : 0]								RD#	R/W#	CS#	D/C#	RES#
Serial Interface	Tie LOW				SOD	SID	SCL	Tie LOW			CS#	Tie LOW	RES#
I2C	Tie LOW				SDA <sub>OUT</sub>	SDAIN	SCL	Tie LOW			SA0	RES#	

**Table 10.** Interface

Characteristics	Conditions	LK1	LK2
Supply voltage	Low Voltage I/O Application	Shortcut	Open
Supply voltage	5V I/O Application	Open	Shortcut

**Table 11.** Power Supply



## Electrical specifications

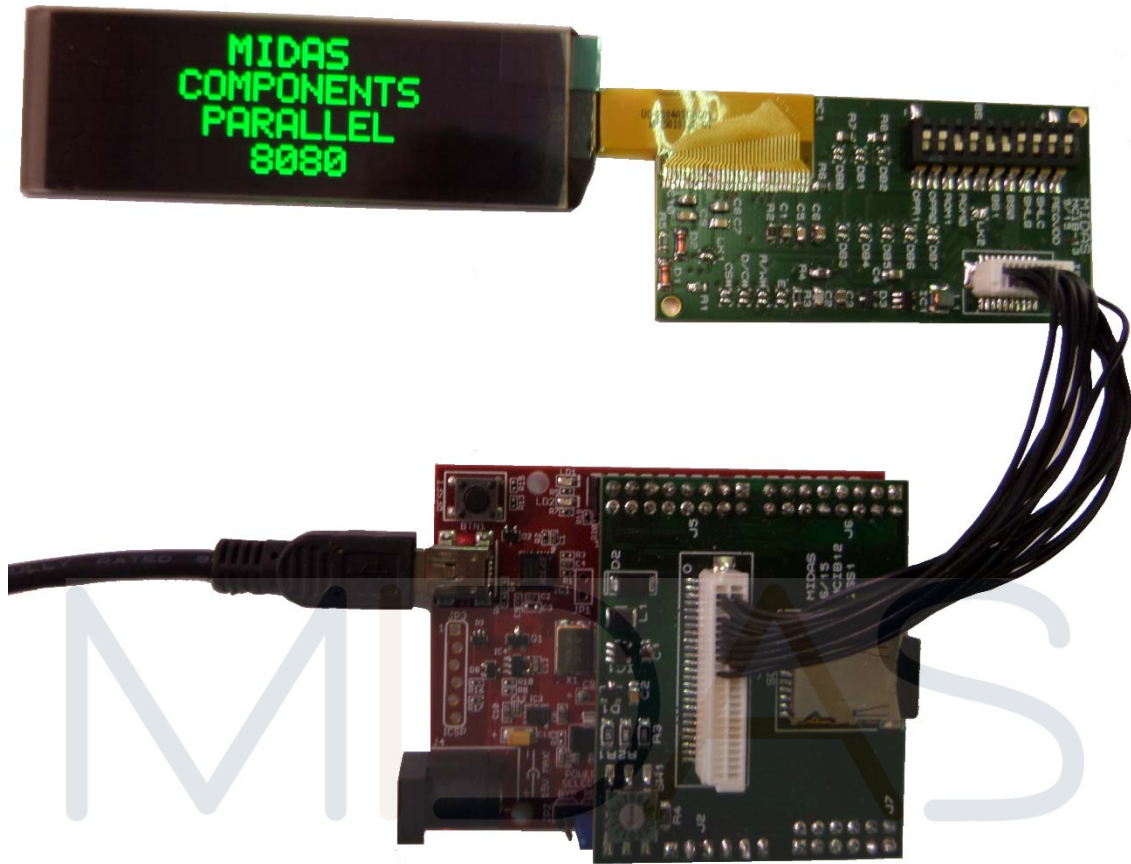
Absolute Maximum Ratings		
Operating Temperature	-40 to 85	°C
Storage Temperature	-40 to 90	°C
Supply Voltage for Logic (VDD)	-0.3 to 6	V
Supply Voltage for I/O Pins (VDDIO)	-0.3 to 6	V
Supply Voltage for Display (VCC)	0 to 15	V

**Table 12.** Absolute Maximum ratings

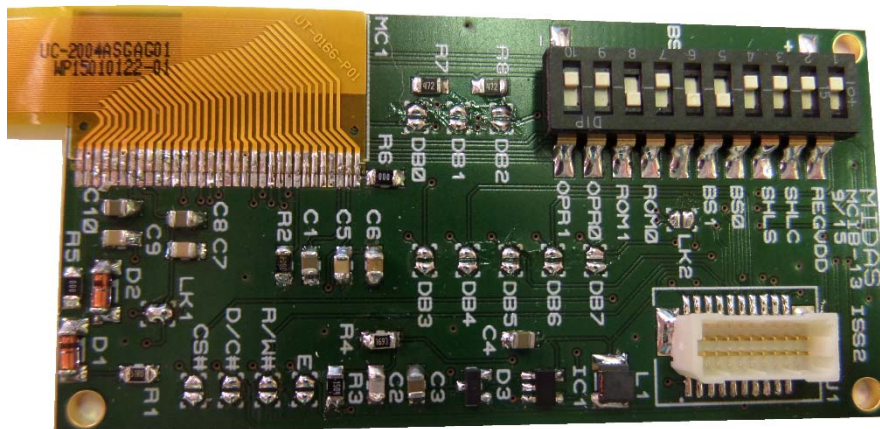
Typical Electrical Characteristics						
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Logic	VDD	Low Voltage I/O Application	2.4	2.8	VDDIO	V
Supply Voltage for I/O Pins	VDDIO	Low Voltage I/O Application	2.4	2.8	3.6	V
Supply Voltage for Logic	VDD	5V I/O Application	-	-	-	V
Supply Voltage for I/O Pins	VDDIO	5V I/O Application	4.4	5.0	5.5	V
Supply for Display	VCC	-	11.5	12.0	12.5	V

**Table 12.** Typical Electrical Characteristics

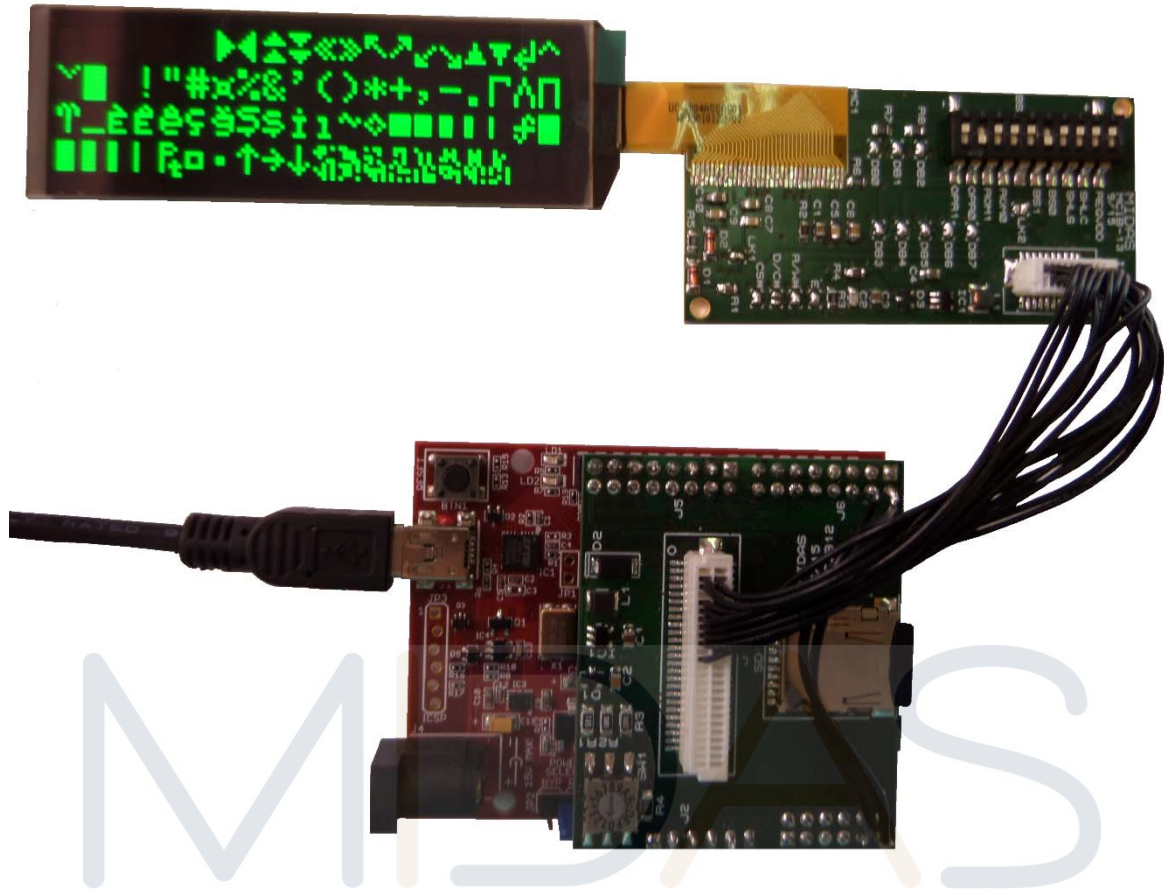
## Example



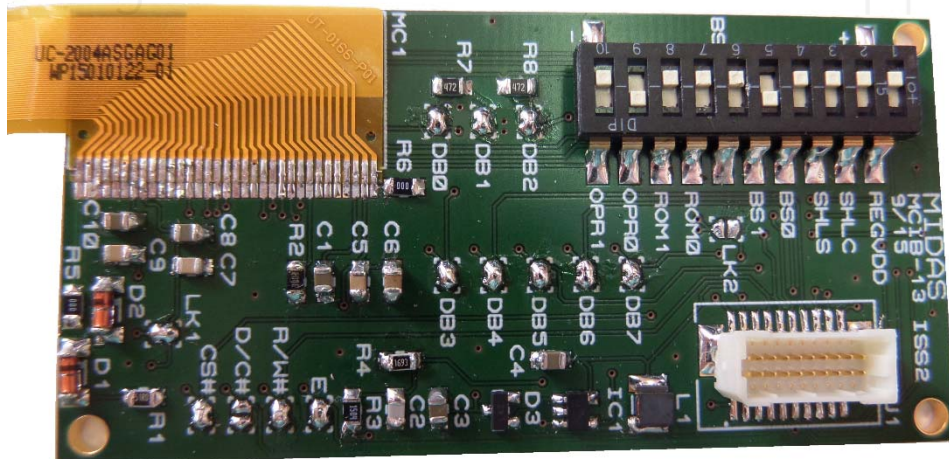
**Figure 2.** MCIB-13 with UNO32 and MCIB-12 8-Bit Parallel Mode



**Figure 3.** Close up of MCIB-13 Board's Links and Switch Positions.

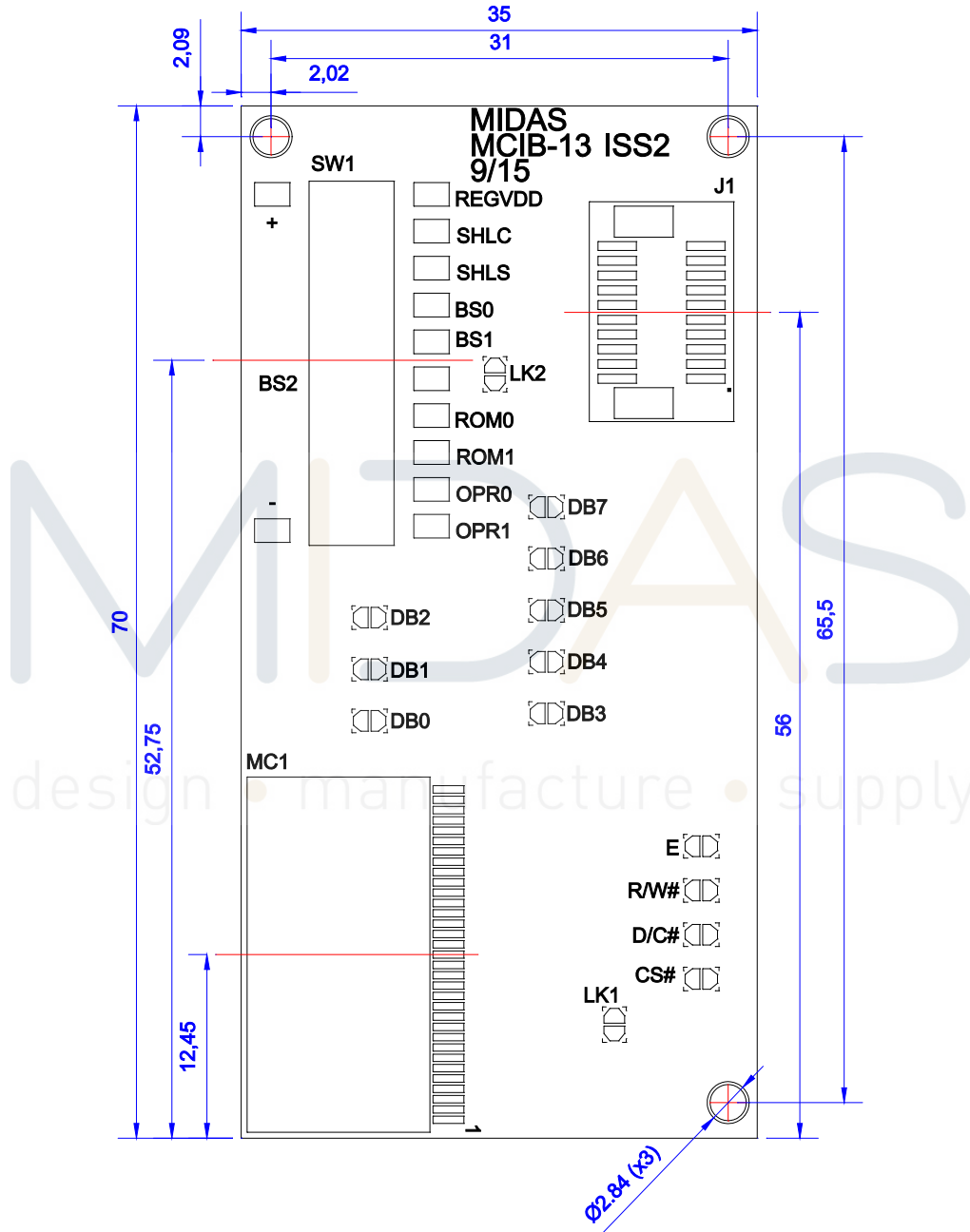


**Figure 4.** MCIB-13 with UNO32 and MCIB-12 I2C Interface



**Figure 5.** Close up of MCIB-13 Board's Links and Switch Positions.

## Mechanical Drawing



\*Note all measurements are in mm unless stated otherwise.