

LVDS input to 40 Way LVDS Display Interface Board	
Part Number:	MCIB-16
Version:	1
Date:	04/05/2016
Revision History	
Date	Description of change
04/05/2016	First draft

MCIB-16 LVDS input to 40 Way LVDS Display Interface Board

Overview & Features

The MCIB-16 is an LVDS interface board designed to provide the different voltage requirements for a range of LVDS displays.

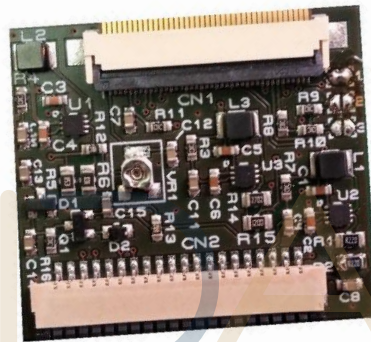


Figure 1. MCIB-16.

Features

- 40 way 0.5mm pitch FFC TFT display connector.
- LVDS interface input.
- Voltage generation from -7.5V to 21V (Digital/Analog/VCOM/VGL/VGH).
- Mechanical dimensions 31 x 35 x 11 mm.
- Pin compatible with the following Midas displays:

MCT074A	7.4"	1280 x 400
MCT088A	8.8"	1280 x 320
MCT101D	10.1"	1024 x 600

Connections

CN1 40Pin 0.5mm pitch Display Connector	Symbol	Description
1	VCOM	Common Voltage
2	VDD	Display supply (3.3V)
3	VDD	Display supply (3.3V)
4	NC	No connection
5	Reset	Global reset pin
6	STBYB	Stand
7	GND	Ground
8	RXIN0-	-LVDS differential data input
9	RXIN0+	+LVDS differential data input
10	GND	Ground
11	RXIN1-	-LVDS differential data input
12	RXIN1+	+LVDS differential data input
13	GND	Ground
14	RXIN2-	-LVDS differential data input
15	RXIN2+	+LVDS differential data input
16	GND	Ground
17	RXCLKIN-	-LVDS differential clock input
18	RXCLKIN+	+LVDS differential clock input
19	GND	Ground
20	RXIN3-	-LVDS differential data input
21	RXIN3+	+LVDS differential data input
22	GND	Ground
23	NC	No connection
24	NC	No connection
25	GND	Ground
26	NC	No connection
27	NC	No connection
28	SELB	6bit/8bit mode select
29	AVDD	Power for Analog circuit
30	GND	Ground
31	VLED-	LED Cathode
32	VLED-	LED Cathode
33	SHLR	Horizontal inversion
34	UPDN	Vertical inversion
35	VGL	Gate OFF Voltage
36	NC	No connection
37	NC	No connection
38	VGH	Gate ON Voltage
39	VLED+	LED Anode
40	VLED+	LED Anode

Table 1. Display Connector.

CN2 LVDS Connector	Symbol	Description
1	5V	DC-DC circuit supply voltage (5V)
2	VDD	Display supply (3.3V)
3	DIM	Enable
4	GND	Ground
5	RXIN0-	-LVDS differential data input
6	RXIN0+	+LVDS differential data input
7	GND	Ground
8	RXIN1-	-LVDS differential data input
9	RXIN1+	+LVDS differential data input
10	GND	Ground
11	RXIN2-	-LVDS differential data input
12	RXIN2+	+LVDS differential data input
13	GND	Ground
14	RXCLKIN-	-LVDS differential clock input
15	RXCLKIN+	+LVDS differential clock input
16	GND	Ground
17	RXIN3-	-LVDS differential data input
18	RXIN3+	+LVDS differential data input
19	GND	Ground
20	GND	Ground
21	GND	Ground
22	GND	Ground

Table 2. LVDS Connector.

Electrical Specifications

Typical Electrical Characteristics					
Parameter	Symbol	Min	Typ	Max	Unit
Display Supply Voltage (Input)	VDD	3.0	3.3	3.6	V
DC-DC circuit supply voltage (Input)	5V	-	5	-	V

Table 3. Typical electrical Characteristics.

Analog Supply Voltage (AVDD)

The Analog Supply Voltage can be set for various voltages using **R5** and **R6** (please, see circuit diagram).

$$AVDD = \frac{0.095v}{R6} \times (R5 + R6)$$

E.g.

$$\left(\frac{95 \times 10^{-3}}{1.1 \times 10^3}\right) (115 \times 10^3 + 1.1 \times 10^3) = 10.03V$$

Gate On Voltage (VGH)

The Gate On Voltage can be set for various voltages using a **R14** and **R15** (please, see circuit diagram).

$$VGH = \frac{0.095v}{R15} \times (R14 + R15)$$

E.g.

$$\left(\frac{95 \times 10^{-3}}{120}\right) (27 \times 10^3 + 120) = 21.47V$$

Gate Off Voltage (VGL)

The Gate Off Voltage is set by D2 at -6.8V (please, see circuit diagram).

Common Voltage (VCOM)

The Common Voltage can be set for various voltages using a potentiometer **VR1** (please, see circuit diagram).

LED Backlight Current

The LED Backlight is driven by a constant current circuit which can be set for various currents using **R1** and **R2** (please, see circuit diagram).

LED Current = $\frac{0.095v}{R1 + R2}$

E.g.

$$\frac{95 \times 10^{-3}}{(0.22 + 0.3)} = 183mA$$

Examples

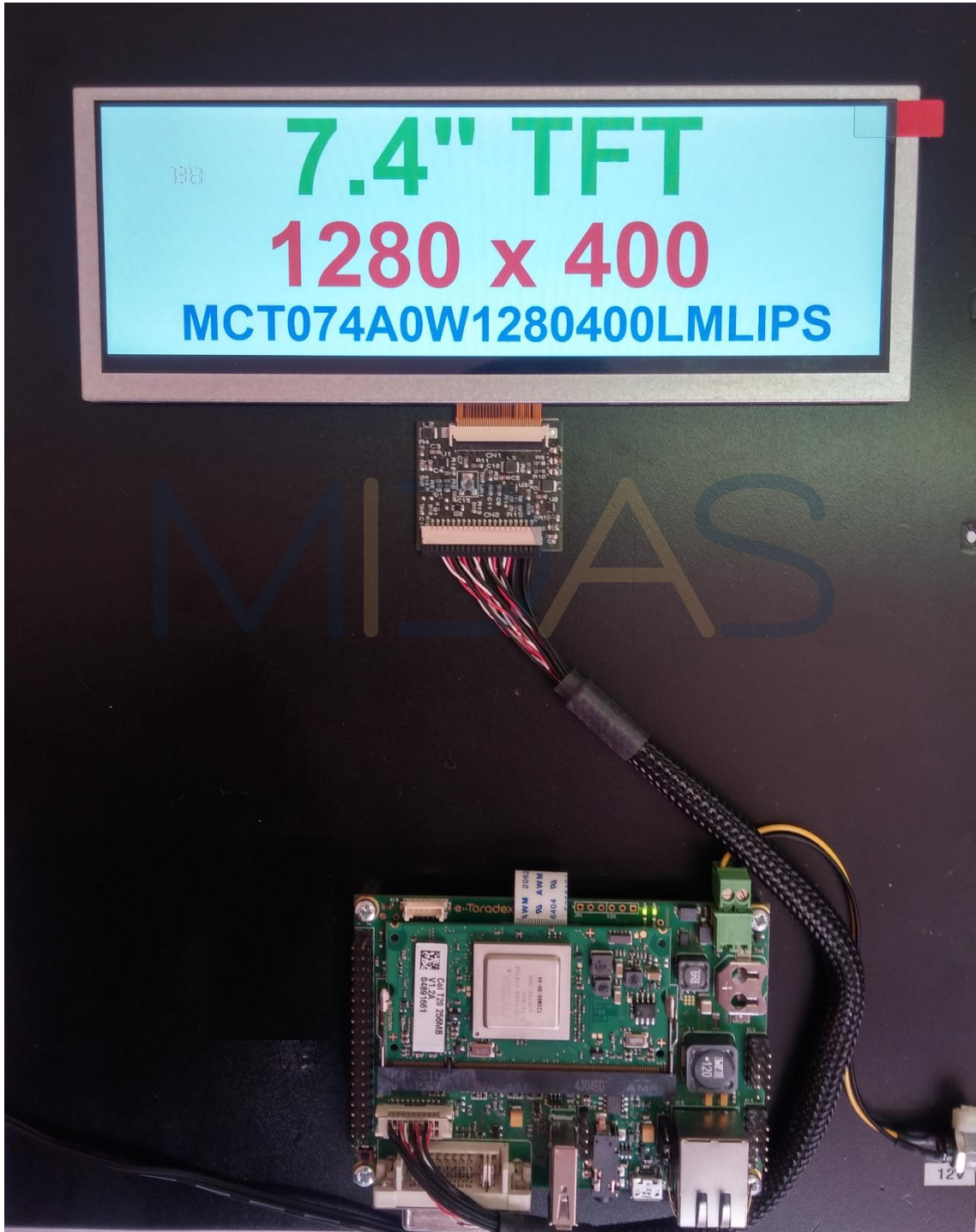


Figure 2. MCIB-16 picture.



Figure 3. MCIB-16 video.

Circuit Diagram

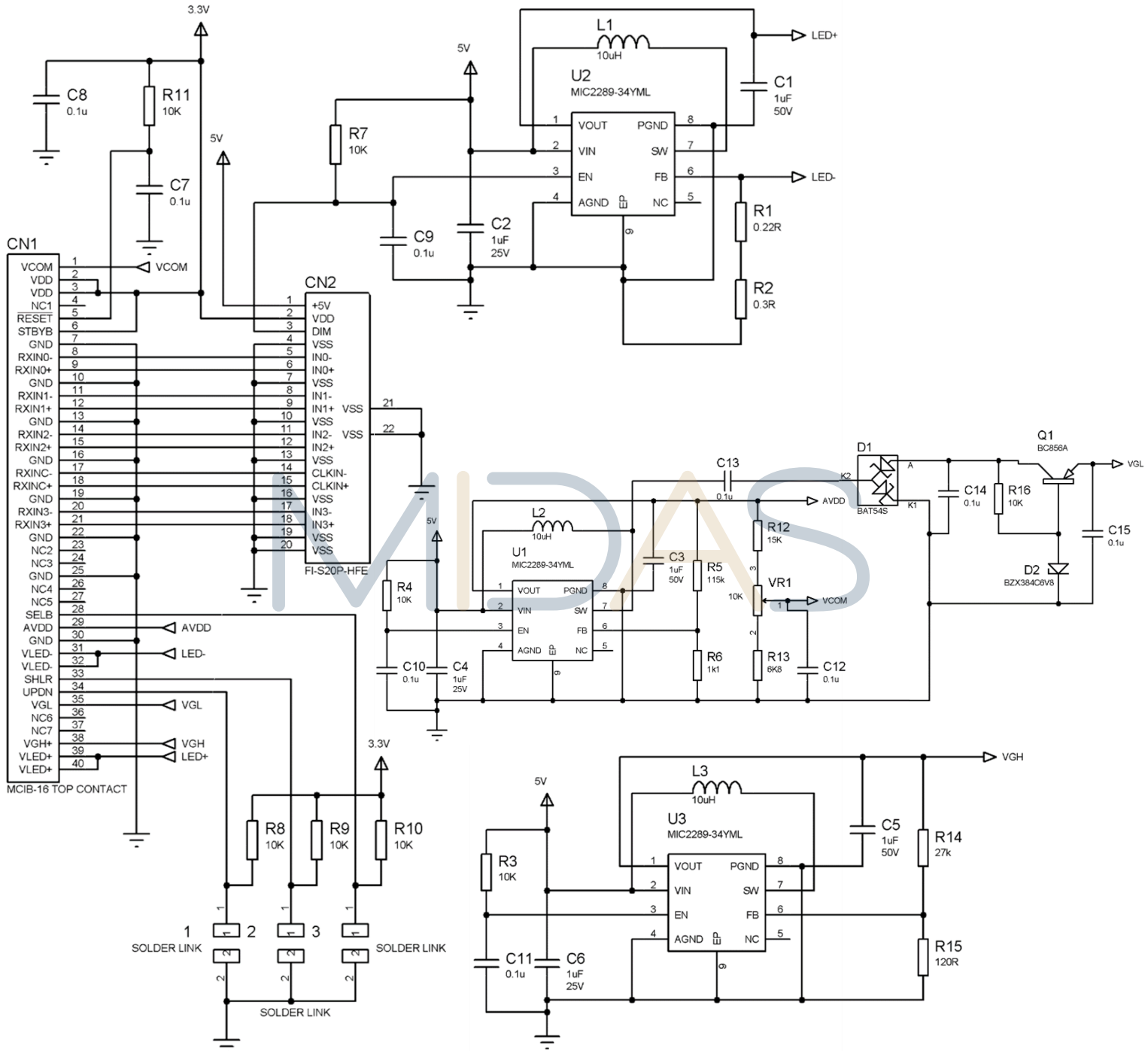


Figure 5. Circuit Diagram.

Mechanical Drawing

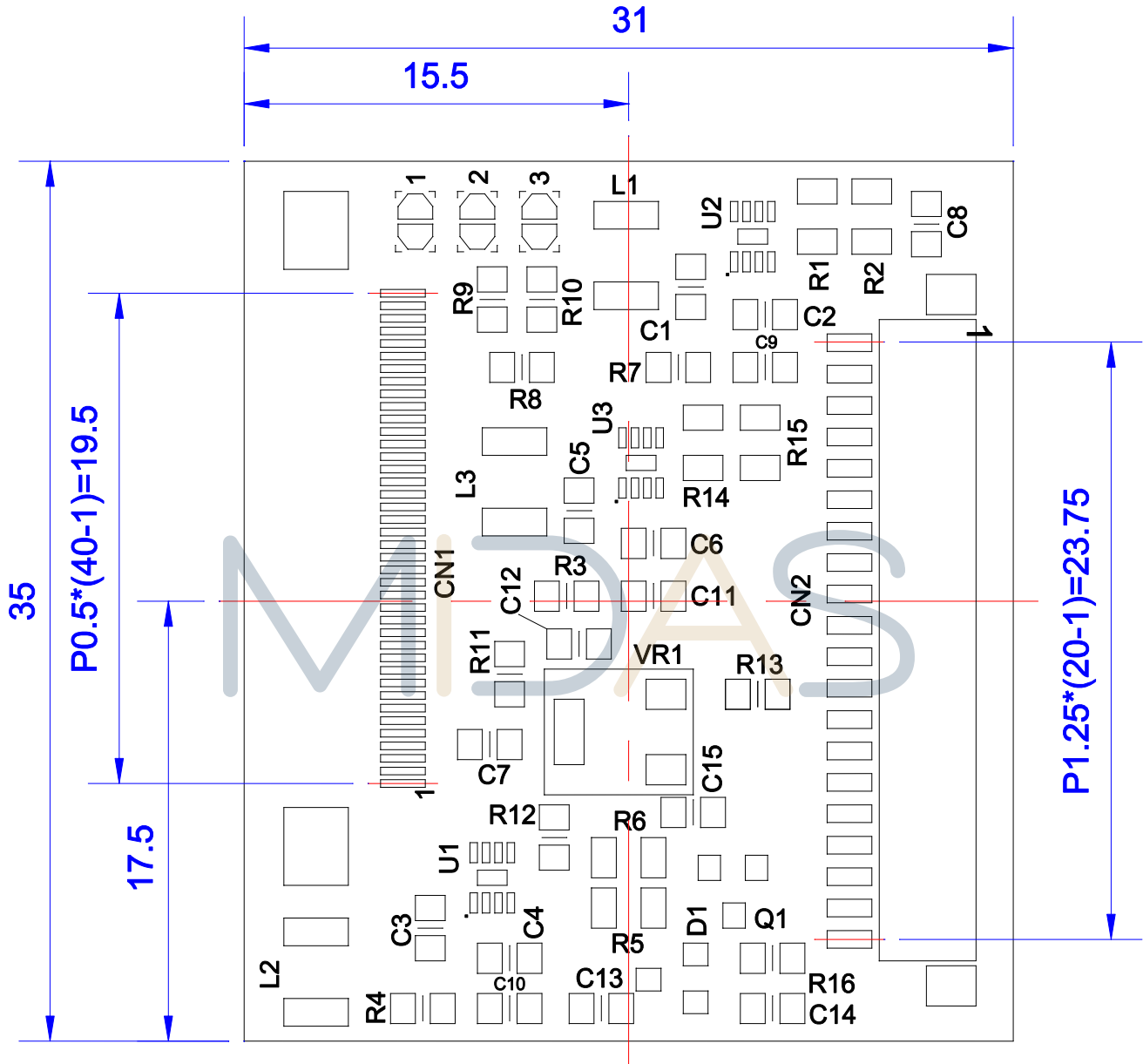


Figure 4. Mechanical drawing.

***Note all dimensions are in millimetres (mm).**