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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

RoHS 2011/65/EU

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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

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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.

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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.

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Analog Supply Voltage (AVDD)

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

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

E.g.

$$\left(\frac{95x10^{-3}}{1.1x10^{3}}\right)(115x10^{3} + 1.1x10^{3}) = 10.03V$$

Gate On Voltage (VGH)

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

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

E.g.

$$\left(\frac{95x10^{-3}}{120}\right)(27x10^{3} + 120) = 21.47V$$

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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.

$$\frac{95x10^{-3}}{(0.22+0.3)} = 183mA$$

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Examples

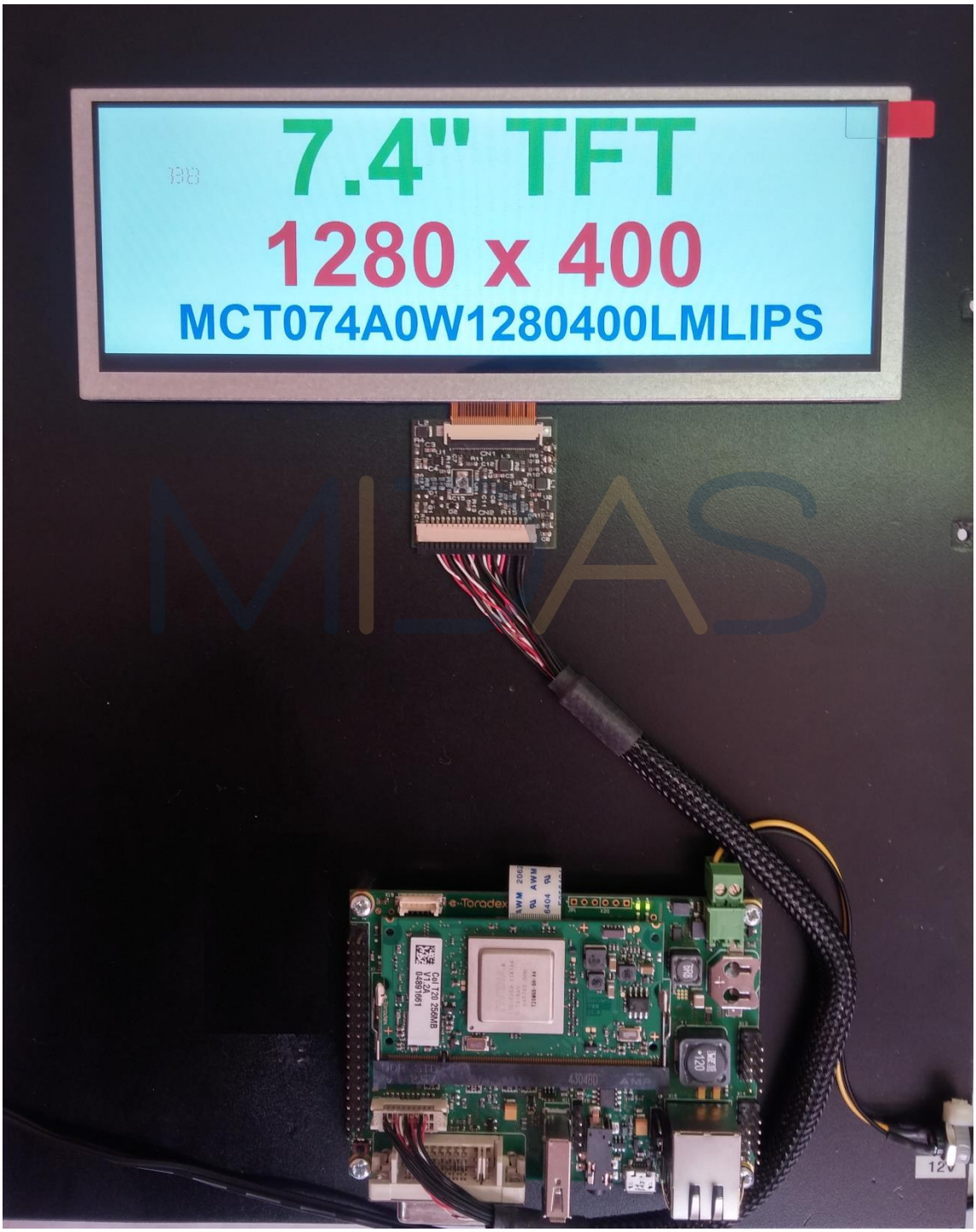

Figure 2. MCIB-16 picture.

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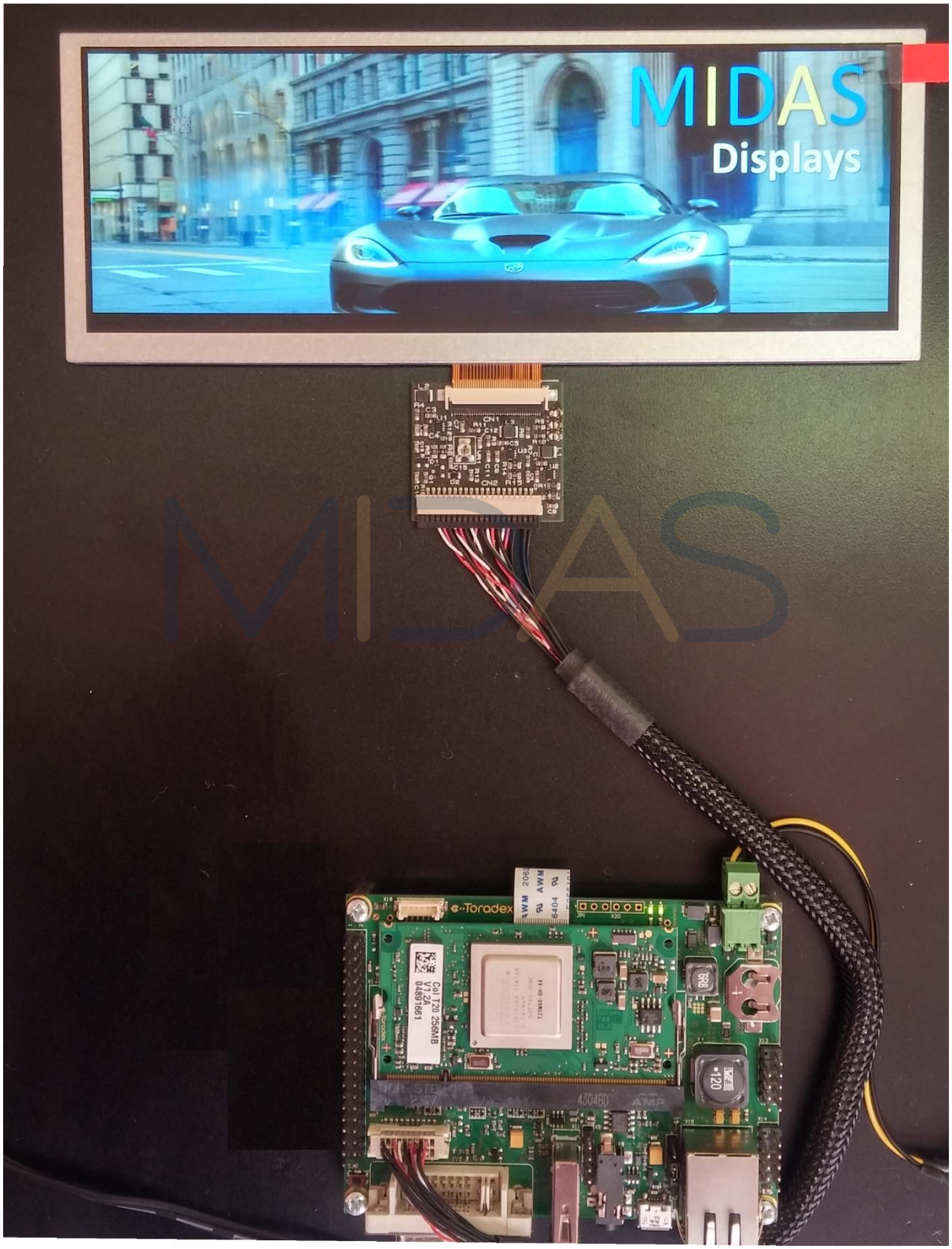

Figure 3. MCIB-16 video.

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Circuit Diagram

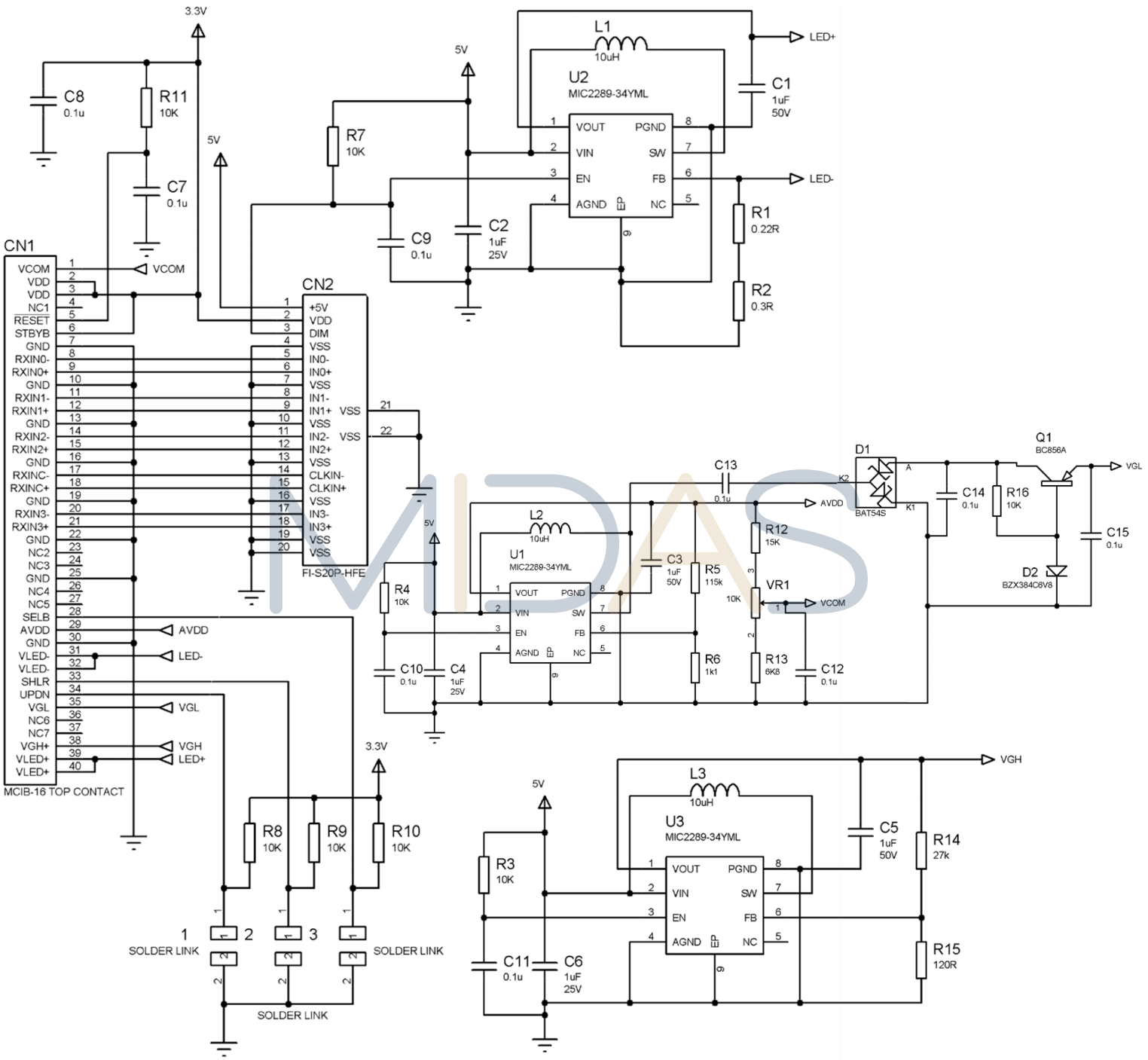

Figure 5. Circuit Diagram.

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Mechanical Drawing

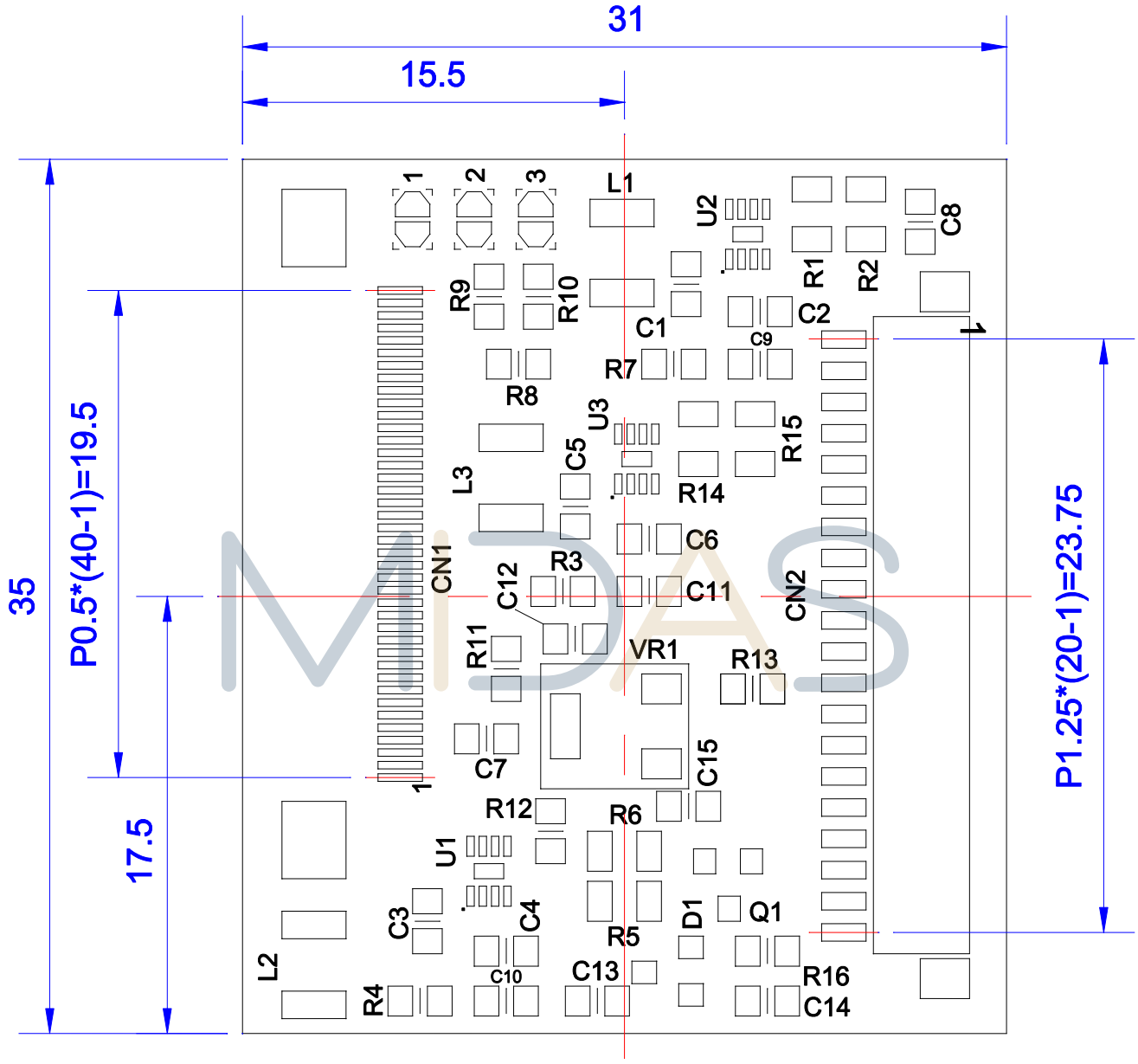

Figure 4. Mechanical drawing.

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

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