Spec Sheet

ITEM	MIB BOARD
MODEL	GEN170D
REV	Rev 1.0
DATE	2005-02-26

GENSTAR 귀하

검토	심사	승인

결 재	담당	부장	대표

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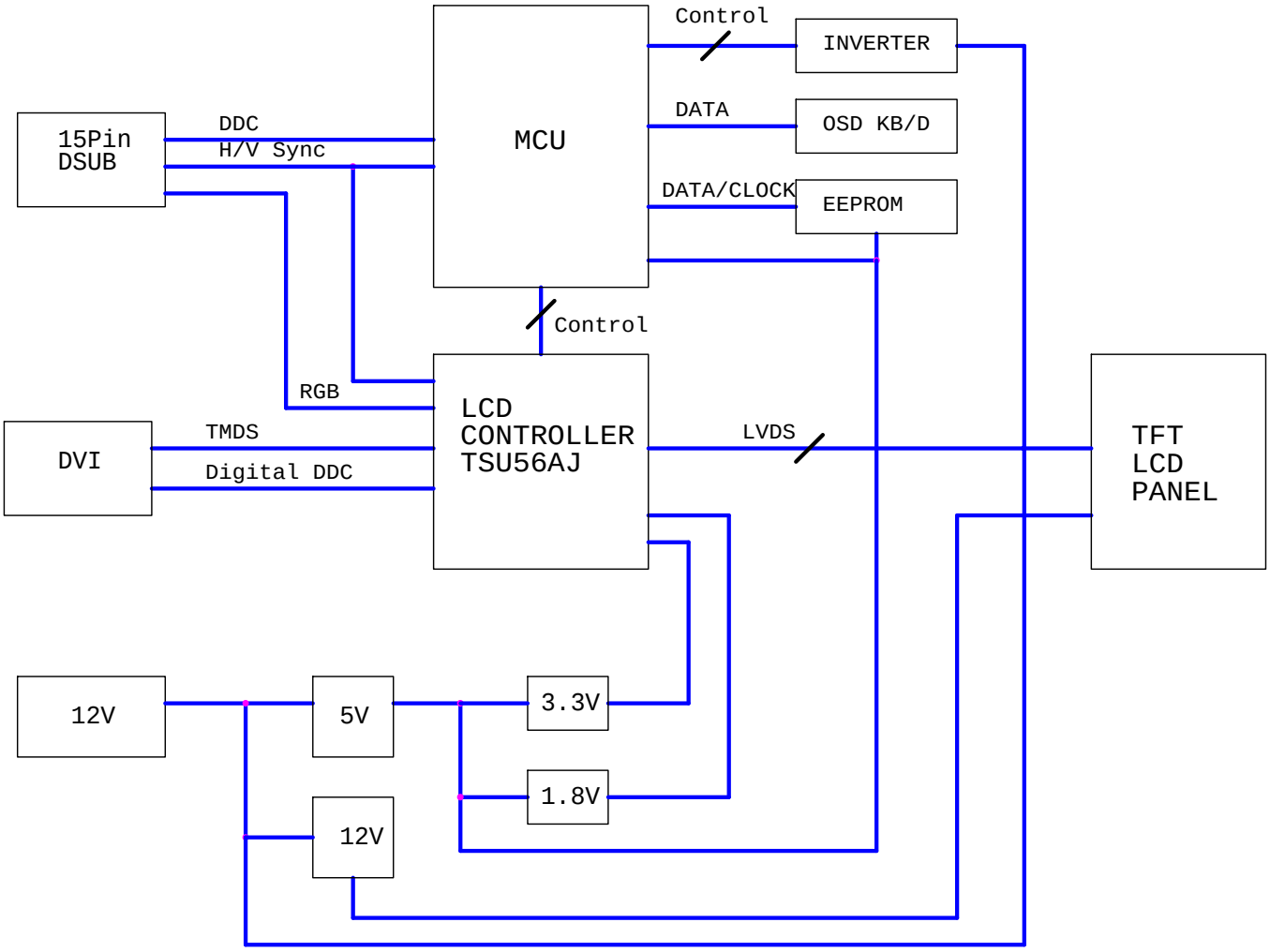
1. GEN170D BLOCK DIAGRAM

<GEN1701 BLOCK DIAGRAM>



2. Product Overview

This board accepts standard analog RGB and SYNC (CRT like) signals from any VGA/SVGA/XGA/SXGA video controller signals. And also generates all the necessary control signals and the panel data to drive LVDS-LCDs. This board Supports form SXGA to VGA resolutions at vertical refresh rate to 75Hz. Lower resolution mode can be expanded to full-screen or centered through the On-Screen Menu user interface. The user interface includes-Auto-Adjust, Phase, Brightness, Contrast, Horizontal and Vertical Position adjustment etc. Via on-screen programming.

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3.Features

Support for all kinds of LG's SXGA(1280x1024),
SAMAUNG SXGA(1280x1024)panels.
Automatic Mode detection from VGA through SXGA.
Provides up to 130MHz Color.
Flicker-free, sharp image/text data.
Refresh rates up to 75Hz without external frame memory.
Full screen image expansion or centered-mode display for lower resolutions.
User friendly On Screen Display Menu to control image

 Contrast /  Brightness

RGB Color Control

 Geometry(H-,V- position, H-size)

OSD Control(Position, Time)

 OSD LANGUAGE.

Power management support(DPMS – VESA compliant)
VESA-DDC 1/2B and DDC/CI display ID for Plug and Play Operation(Option)

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4. Electrical Specifications

Video input timing;

Supported vertical refresh rates for each modes are as follow

640x350	70Hz
640x400	70Hz
720x350	70Hz
640x480	60~75Hz
800x600	60~75Hz
1024x768	60~75Hz
1280x1024	60~75H

Sync : H/V Separated LVDS

Electrical Characteristics;

Item	symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply Voltage		- - - - - - - -	11.4	12.0	12.6	Vdc
Absolute Max.Rating		- - - - - - - -		12.0	13.0	Vdc
Current Consumption		Board Only		126		mA
		With LM170x6		720	760	mA

Item	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Panel Logic Voltage	Vdd	- - - - -	3.15	3.3	3.45	Vdc
Output Signal Voltage (3.3V Logic)	Vout	High Level	0.7 vdd	3.3	vdd	Vdc
		Low Level	- - - - -	0.1	0.2 vdd	Vdc
Data Shift clk Freq.	CP		20		85	Mhz
Hsync(Latch Clk)	LP/Hsync		31.5			Khz
Frame Frequency	FLM/Vsync		56		75	hz

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5. Engineering Spec

No	항목	설명			비고
1	입력전원	최소	정격	최대	VOLT
		11.4	12.0	12.6	
2	DPMS	SYNC(V/H)	VIDEO	소비전력(V/A)	LED색
	Stand By, Sleep &Suspend Mode	꺼짐/켜짐 켜짐/꺼짐	OFF	<5W	Amber
	POWER OFF	-	-	<5W	꺼짐

6. LCD Panels Supported

This Controller Board supports most LVDS panels on the market.
Especially the following models, made by LG.PHILIPS-LCD,SAMSUNG-LCD are supported without changing any Hardware.

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7. Assembly Notes for the Controller Board

This section provides some guidelines assembly and preparation of a finished Display solution using this controller.

Preparation : Before proceeding it is important to familiarize yourself with the parts making up a system and the various connectors, mounting holes and genera layout of the controller. As much as Possible connectors have been labeled on the controller. Connector pin-outs mechanical information is shown in the following relevant sections.

LCD Panel : This controller is designed for typical LVDS panels with 5.0V LVDS interface with 12V for 19.0". Due to the variation Between manufactures of signal timing and other panel characteristics factory Setup and confirmation should be obtained before connecting to a panel.

LCD signal cable : In order to provide a good signal, it is recommended that LCD signal cable is no longer than 50cm

Inverter : This will be required for the backlight of an LCD. As panels may have One or more backlight tubes and the requirements for different panel backlight may vary it is important to match the inverter in order to obtain optimum performance.

Inverter cable : This supply Inverter power, on/off signal and bright signal to Inverter. See Application notes for more information on connection.

OSD Controller : See Operation Function section

Power : +12V DC and GND are required, this should be a regulated supply. Although the controller provides power regulation for the LCD power this does not relate to the power supplied to the backlight inverter.

VGA Input : As this may affect regulatory emission test results a suitably shielded cable Should be utilized

EMI : Shielding will be required for passing certain regulatory emissions tests. Also The choice of external Controller to PC signal cable and power supply can affect the result

PC Signal output : Signal quality is very important. If there is noise or instability in the PC Signal output this may result in visible noise on the display Board connectivity. Refer to section 7. Input connectors

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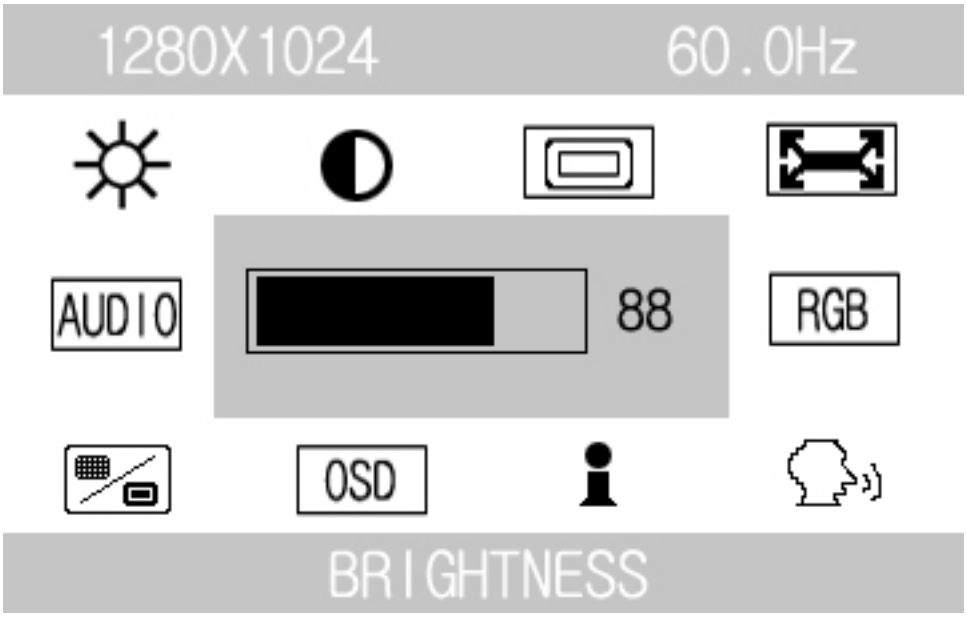
8. OSD (On Screen Display)

8-1.OSD MENU



8-2. BRIGHTNESS/CONTRAST

BRIGHTNESS: Adjust the brightness of the screen. (0~100)

CONTRAST: Adjust the display to the contrast desired. (0~100)

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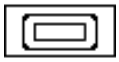
8-3. COLOR

R: To set your own RED levels. (0~100)

G: To set your own GREEN levels. (0~100)

B: To set your own BLUE levels. (0~100)

8-4. POSITION



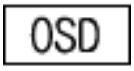
HORIZONTAL: To move picture image left and right. (0~100)

VERTICAL: To move picture image up and down. (0~100)

CLOCK: Adjusts the width of the screen's image by increasing or decreasing the number of pixel. If not a special case, i t'l l be adjusted automatically. (0~100)

PHASE: Adjust the focus of the display.
This item allows you to remove any horizontal noise and clear or sharpen the image if characters. (0~100)

8-5. OSD



OSD POSITION: Adjust the position of the OSD.

OSD TIME: The OSD stays active for as long as it is in use.
Menu Display Time sets the length of time the OSD will remain active after the last time you pushed a button.

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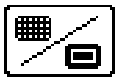
8-6. Language

OSD LANGUAGE: To choose the language in which the control names are displayed.

8-7. INPUT SOURCE



To choose the language Input Source.
ANALOG / DIGITAL

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9. Input Connectors

1. Power Input connector

Connector : DC 12 Jack (J1)

Pin No.	Symbol	Description
3	Vin	+12Vdc
2, 1	GND	GND

2. Analog RGB Input connector

Connector : D-Sub 15pin (CN1)

Pin no	Symbol	Description
1	RED	Analog Red
2	GREEN	Analog Green
3	BLUE	Analog Blue
4	ID2	Reserved
5	GND	Digital GND
6	RGND	Red Return
7	GGND	Green Return
8	BGND	Blue Return
9	+5V	+5Vdc
10	SGND	Sync GND
11	ID0	Reserved
12	SDA	DDC Serial Data
13	HSYNC	Horizontal Sync
14	VSYNC	Vertical Sync
15	SCL	DDC Data Clock

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4. OSD,LED Interface Connector

Connector : 10Pin(J1-2)

Pin No.	Symbol	Description
1	POWER	Power_Key
2	GREEN	Green_Led
3	ORANGE	Orange_Led
4	DOWN	Down_Key
5	UP	Up_Key
6	MENU	Menu_Key
7	SELECT	Select_Key
8	GND	Gnd

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4. DVI Input connector : DVI CON 29PIN (CON1)

Pin no	Symbol	Description
1	DAT2-	R-
2	DAT2+	R+
3	2/4 SHIELD	GND
4	DAT4-	NC
5	DAT4+	NC
6	DDC SCL	DDC2_CLK
7	DDC SDA	DDC2_DAT
8	V SYNC	NC
9	DAT1-	G-
10	DAT1+	G+
11	1/3SHIELD	GND
12	DAT3-	NC
13	DAT3+	NC
14	5V	DDC_PWR2
15	SYNC GND	ST_DET2
16	HPD	HPD
17	DAT0-	B-
18	DAT0+	B+
19	0/5 SHIELD	GND
20	DAT5-	NC
21	DAT5+	NC
22	CLK SHIELD	GND
23	CLK+	CLK+
24	CLK-	CLK-
25	R	NC
26	G	NC
27	B	NC
28	H SYNC	NC
29	RGB GND	NC

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10. Output Connectors for LCD Interface

1. Module Interface Connector Connector : 30Pin(CON4)

Pin No	Symbol	Description
1	VLCD	POWER
2	VLCD	POWER
3	VLCD	POWER
4	NC	NC
5	NC	NC
6	NC	NC
7	GND	GND
8	LVB6	RXO3+
9	LVB7	RXO3-
10	LVB8	RXOC+
11	LVB9	RXOC-
12	LVB4	RXO2+
13	LVB5	RXO2-
14	GND	GND
15	LVB2	RXO1+
16	LVB3	RXO1-
17	GND	GND
18	LVB0	RXO0+
19	LVB1	RXO0-
20	LVA6	RXE3+
21	LVA7	RXE3-
22	LVA8	RXEC+
23	LVA9	RXEC-
24	GND	GND
25	LVA4	RXE2+
26	LVA5	RXE2-
27	LVA2	RXE1+
28	LVA3	RXE1-
29	LVA0	RXE0+
30	LVA1	RXE0-

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2. Backlight Power Connector

Connector : 6Pin (con1)

Pin No	Symbol	Description
1	VIN	12V
2	VIN	12V
3	GND	GND
4	GND	GND
5	BKLT_ON	BKLT_ON
6	BKLT_ADJ	BKLT_ADJ

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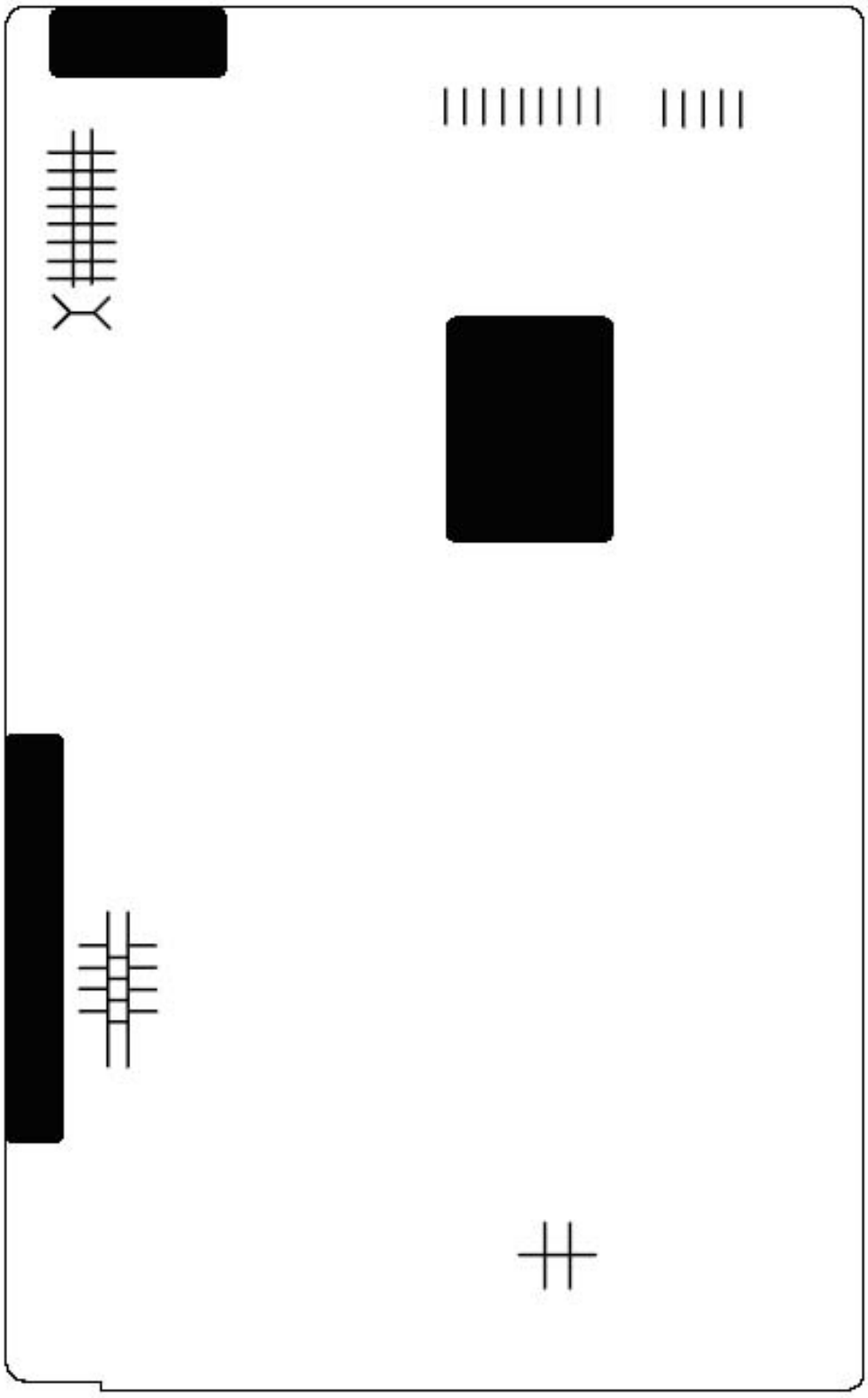
11. PCB



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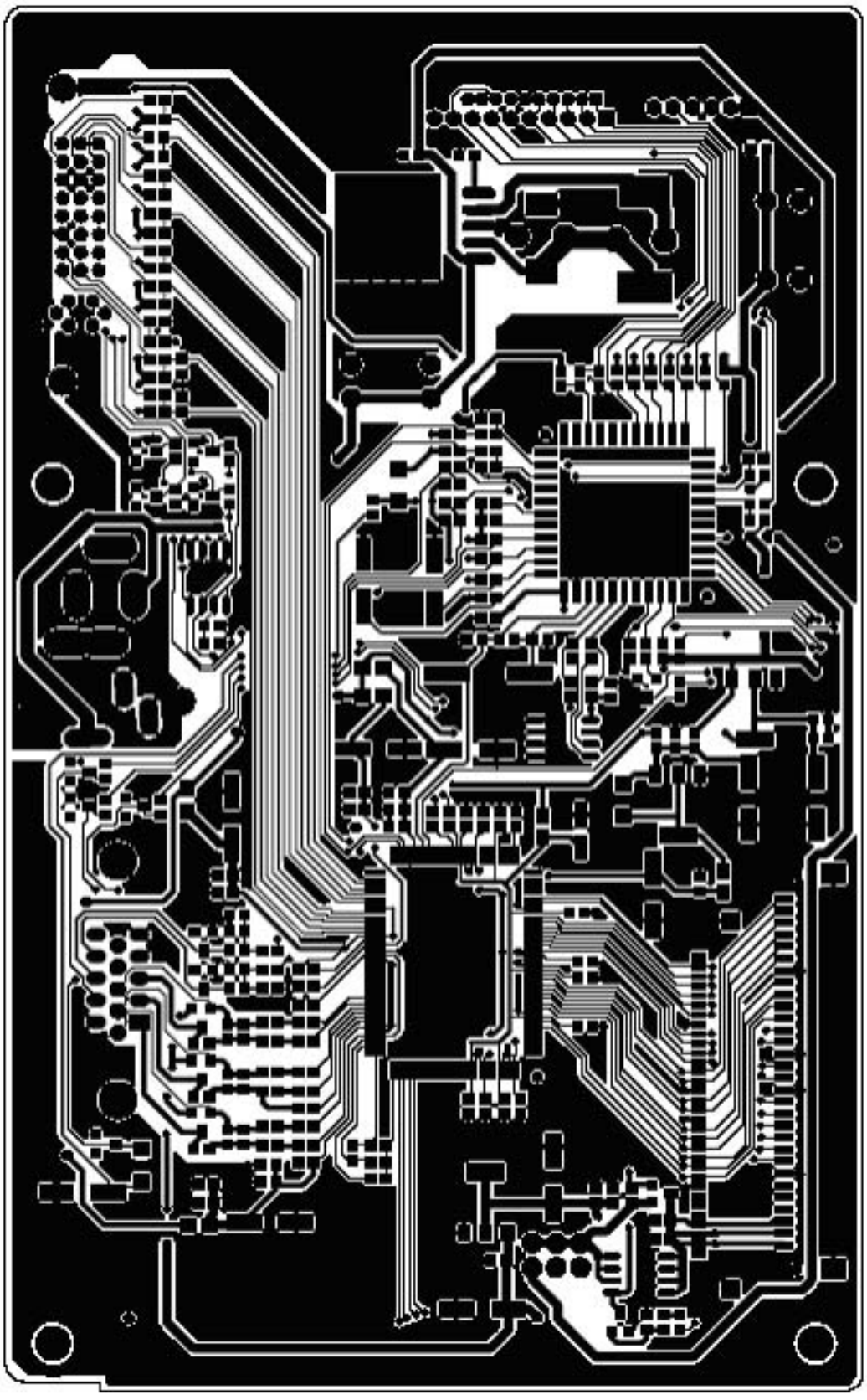

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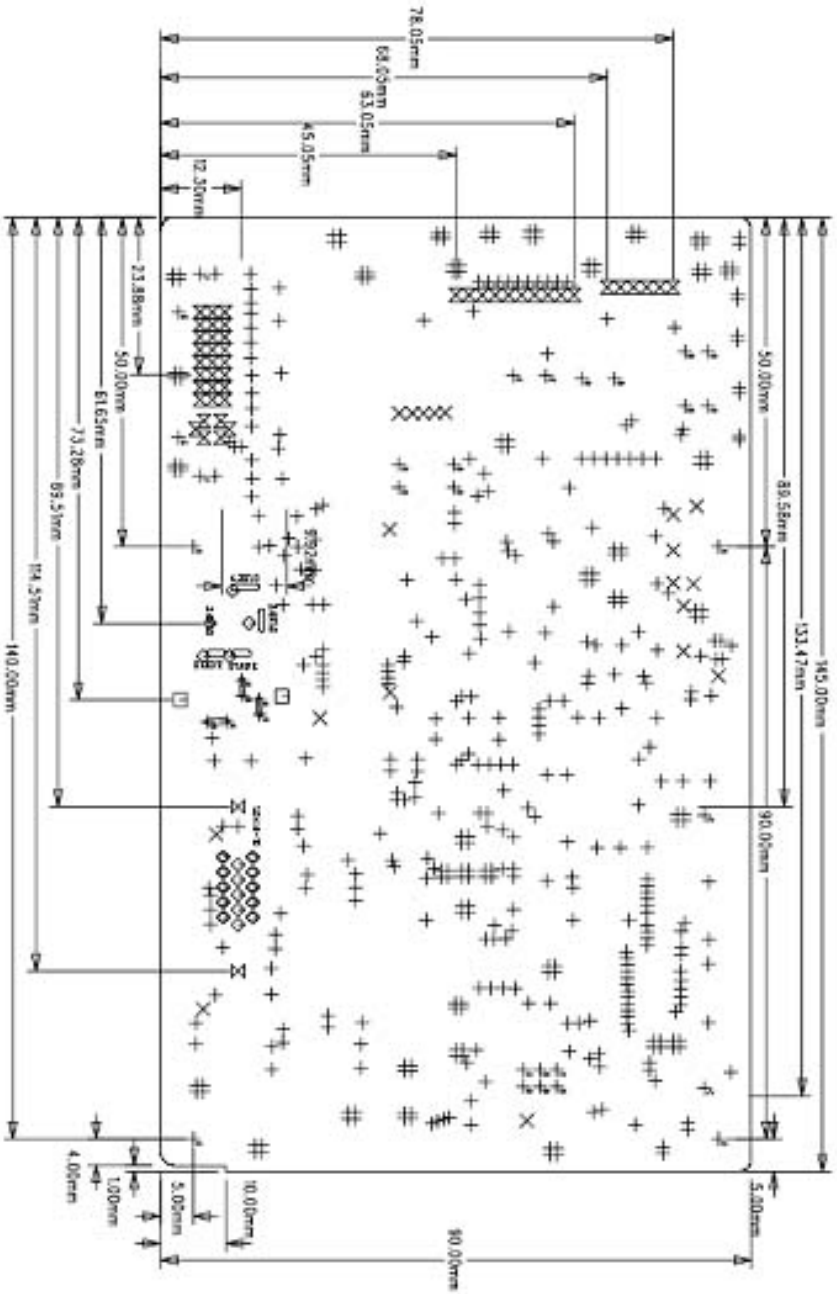
SIZE	QTY	SYM	PLTD
0.35	466	+	PLTD
0.6096	20	X	PLTD
2.7	2	□	NPLTD
0.9906	20	◇	PLTD
3	2	⊠	PLTD
0.9	46	⊠	PLTD
3.5	4	A	NPLTD
1	12	B	PLTD
1.1176	2	C	NPLTD
0.95	4	D	PLTD
1.2	2	E	PLTD
1.9	2	F	PLTD
2.3	2	G	NPLTD
0.8	6	H	PLTD
0.7	10	I	PLTD
0.8 x 3.7	1	H	PLTD
0.8 x 3.1	2	H	PLTD



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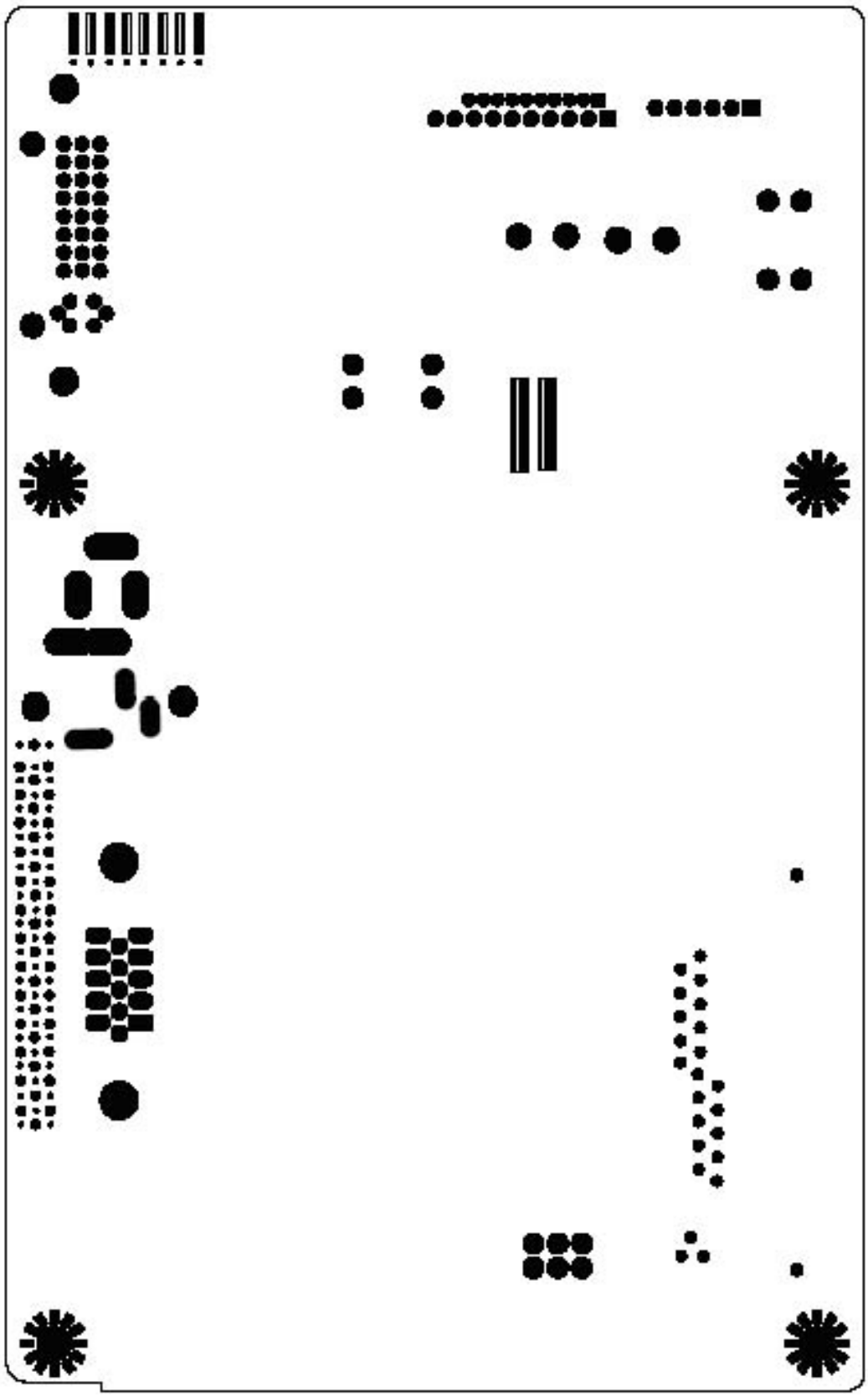

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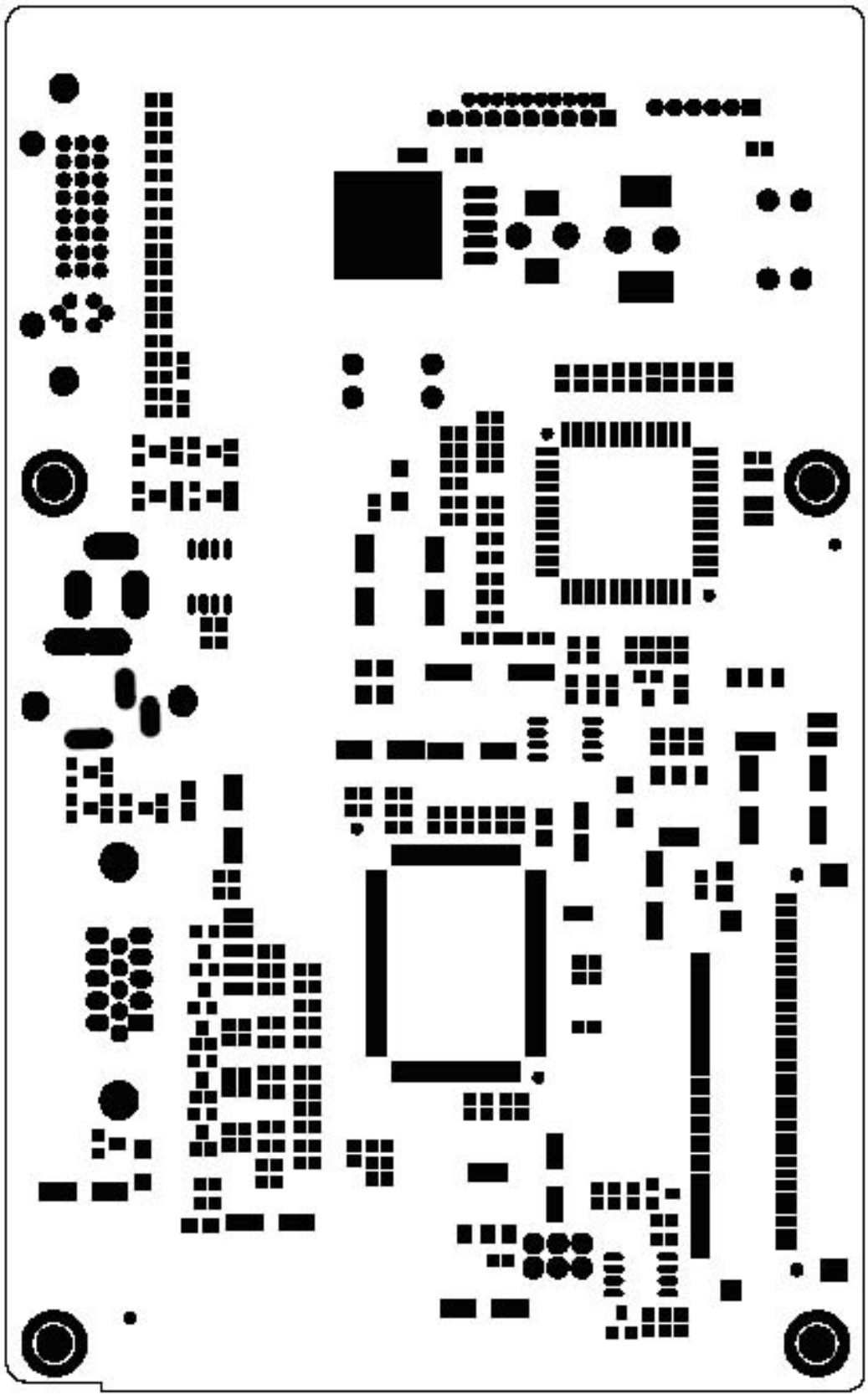

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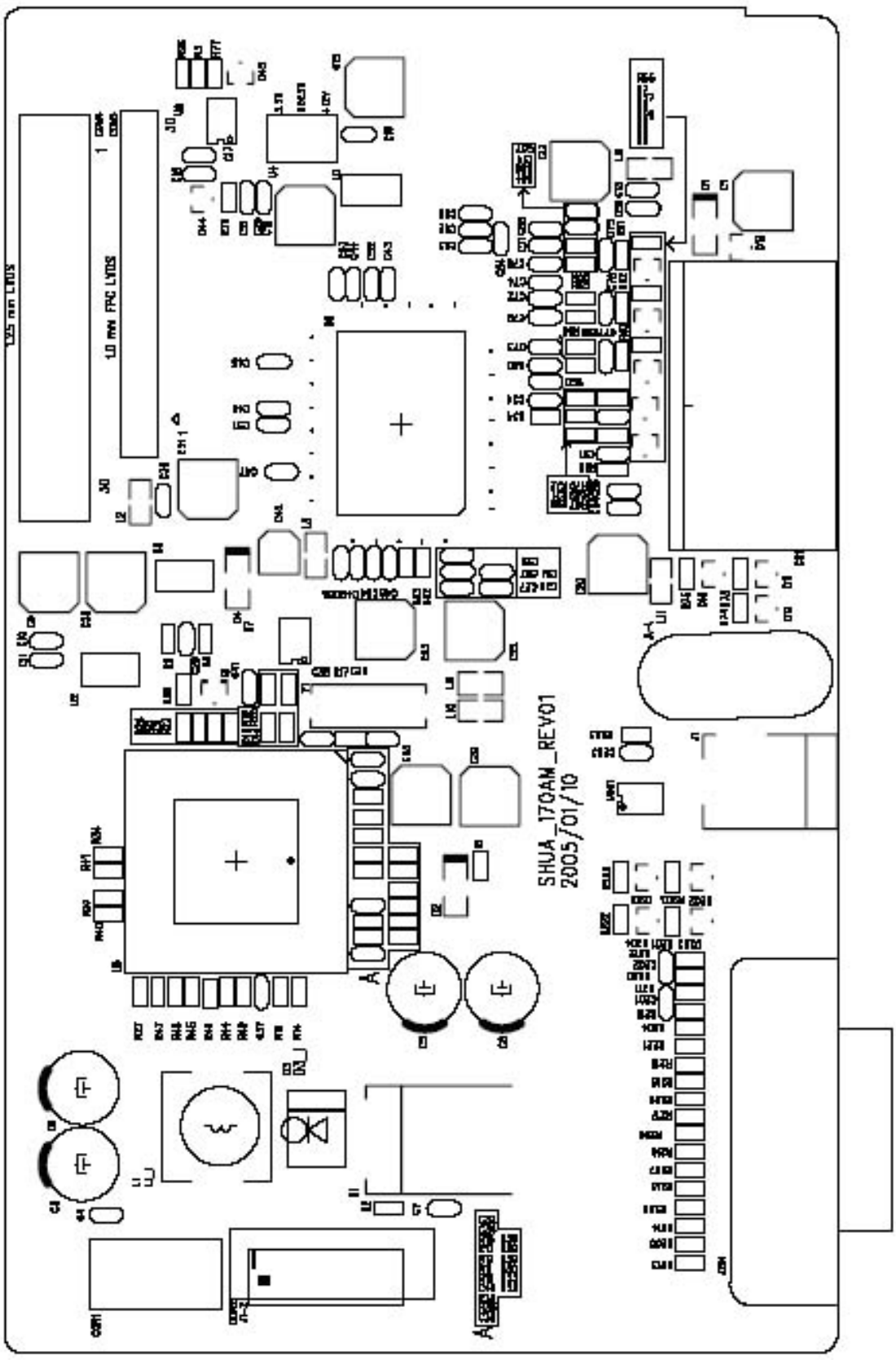

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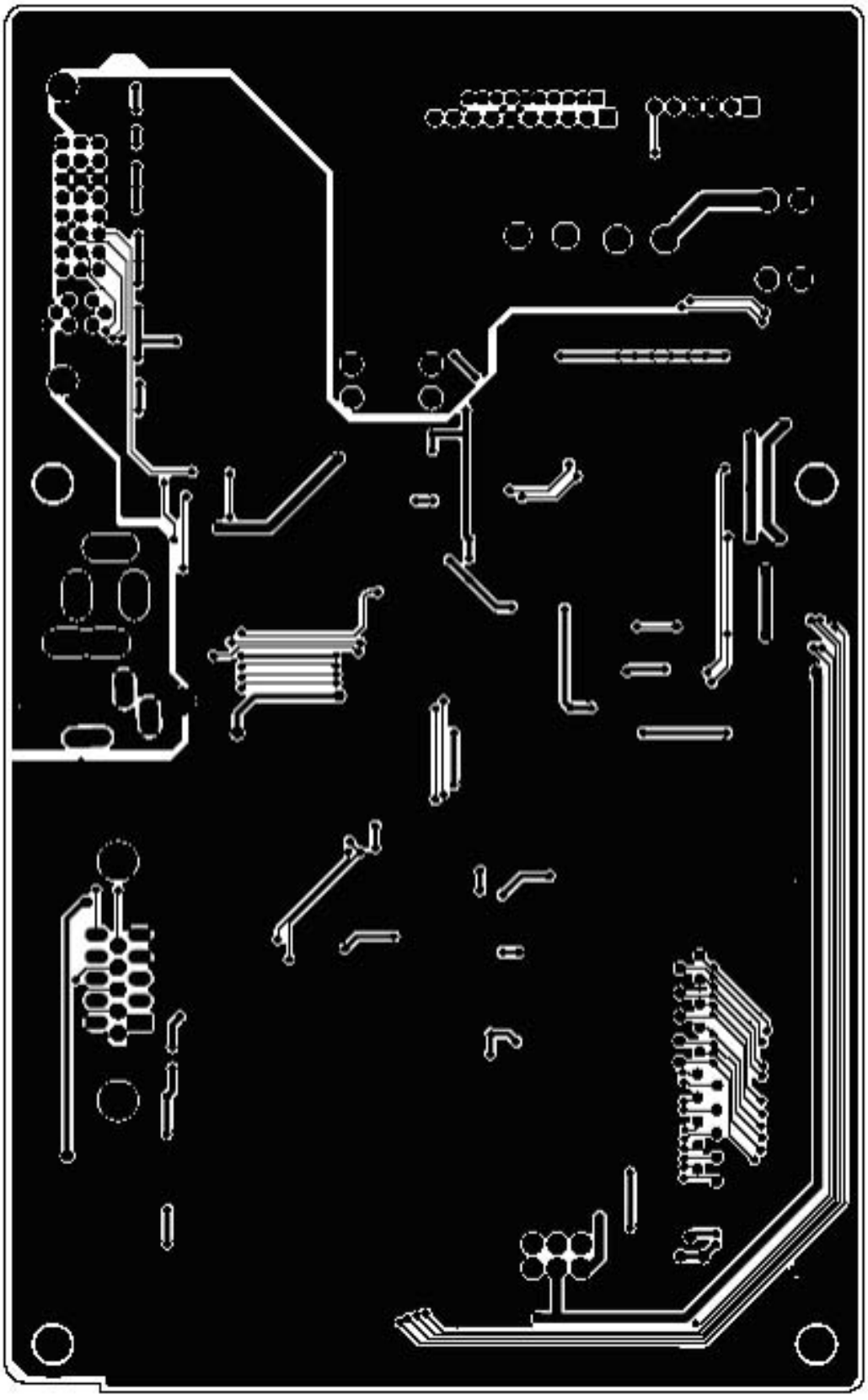

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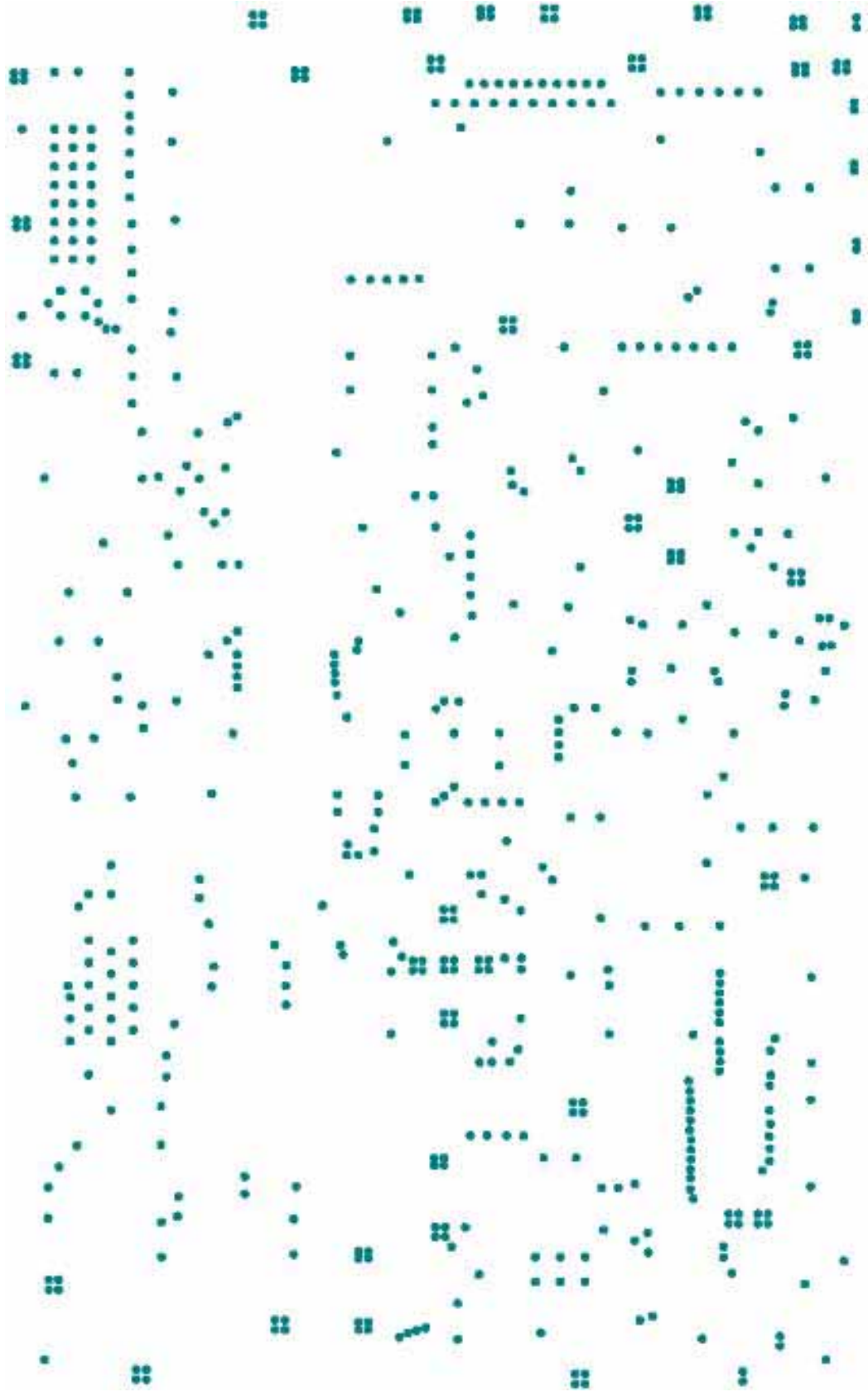

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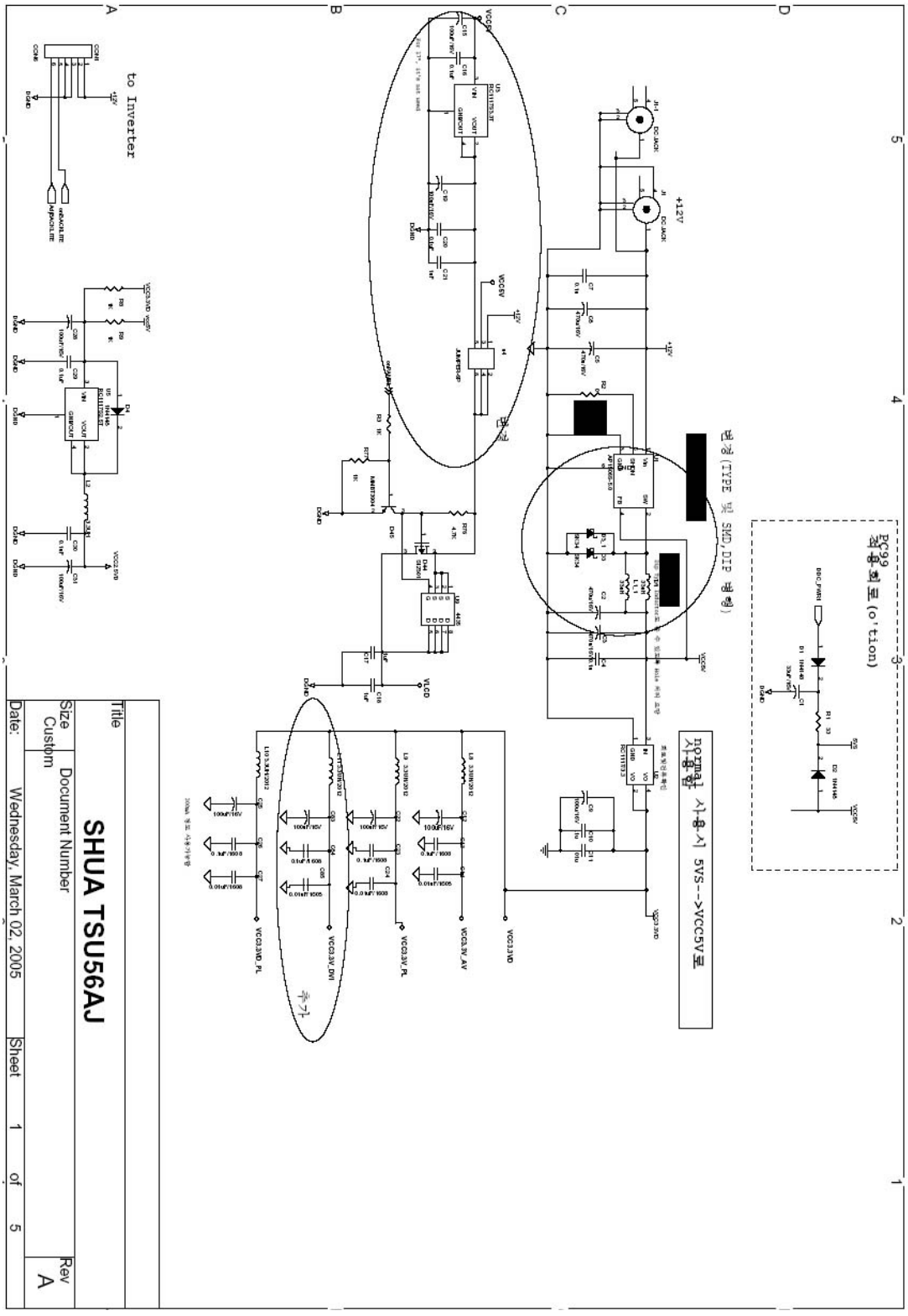
13. 회로도



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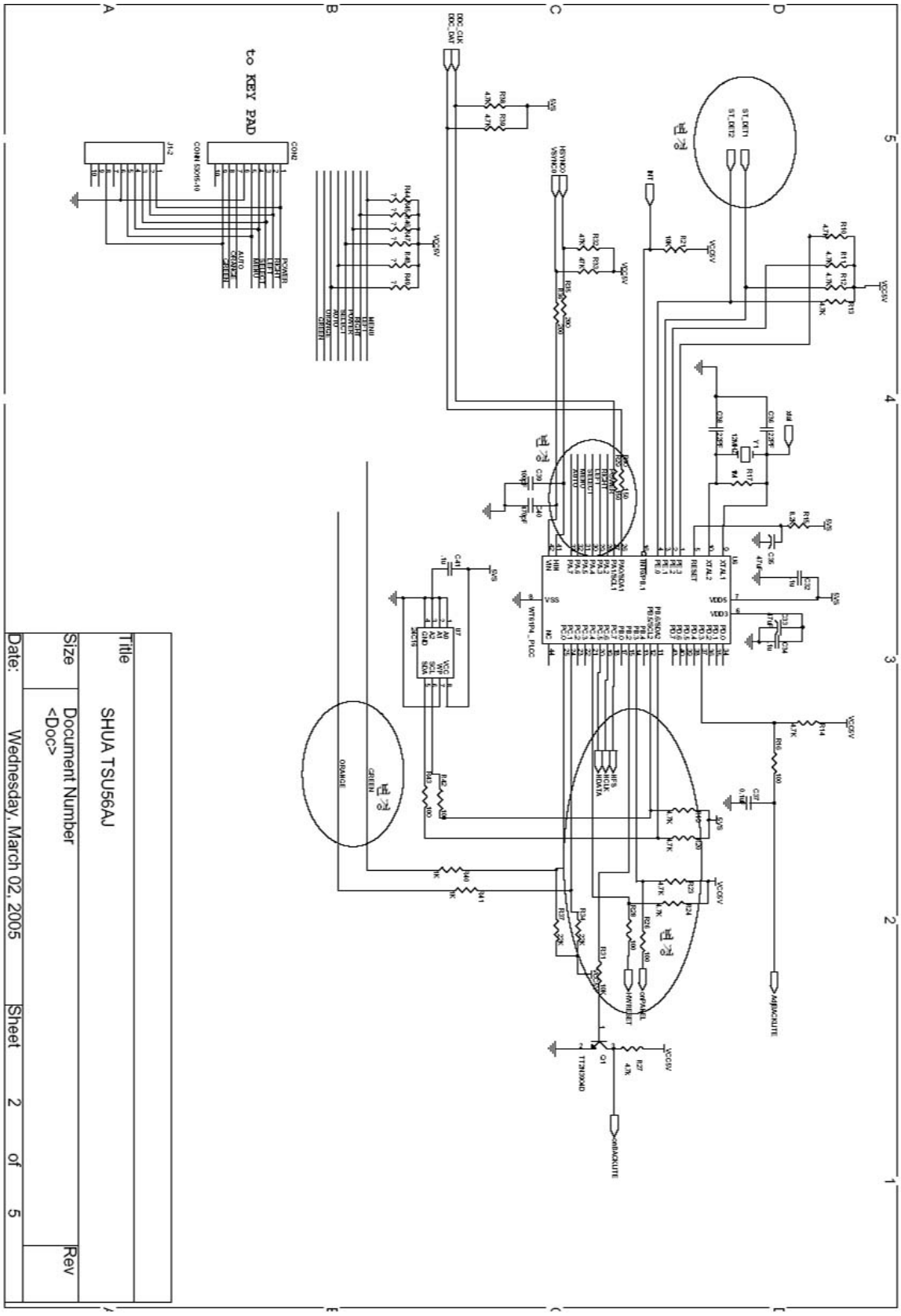

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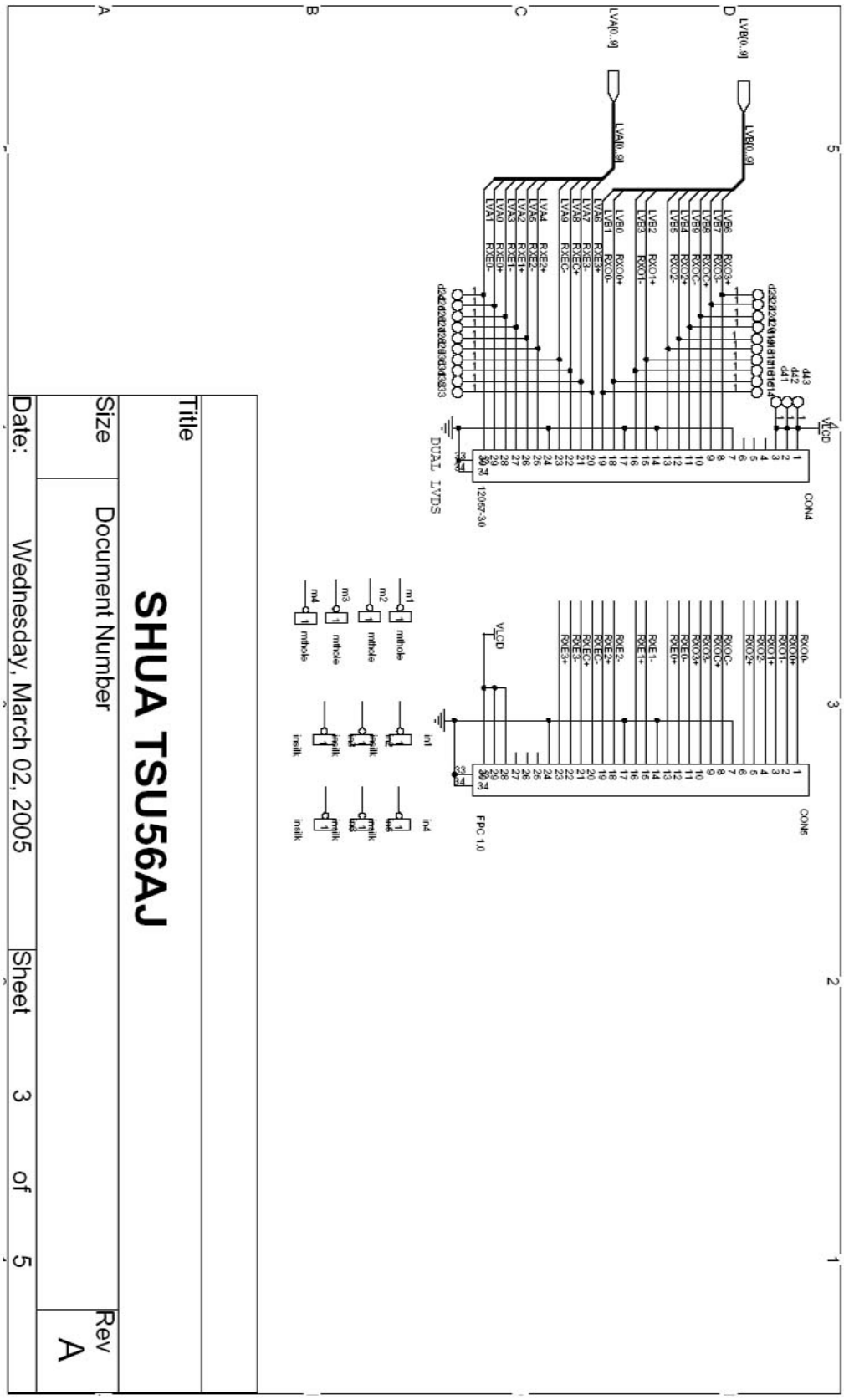

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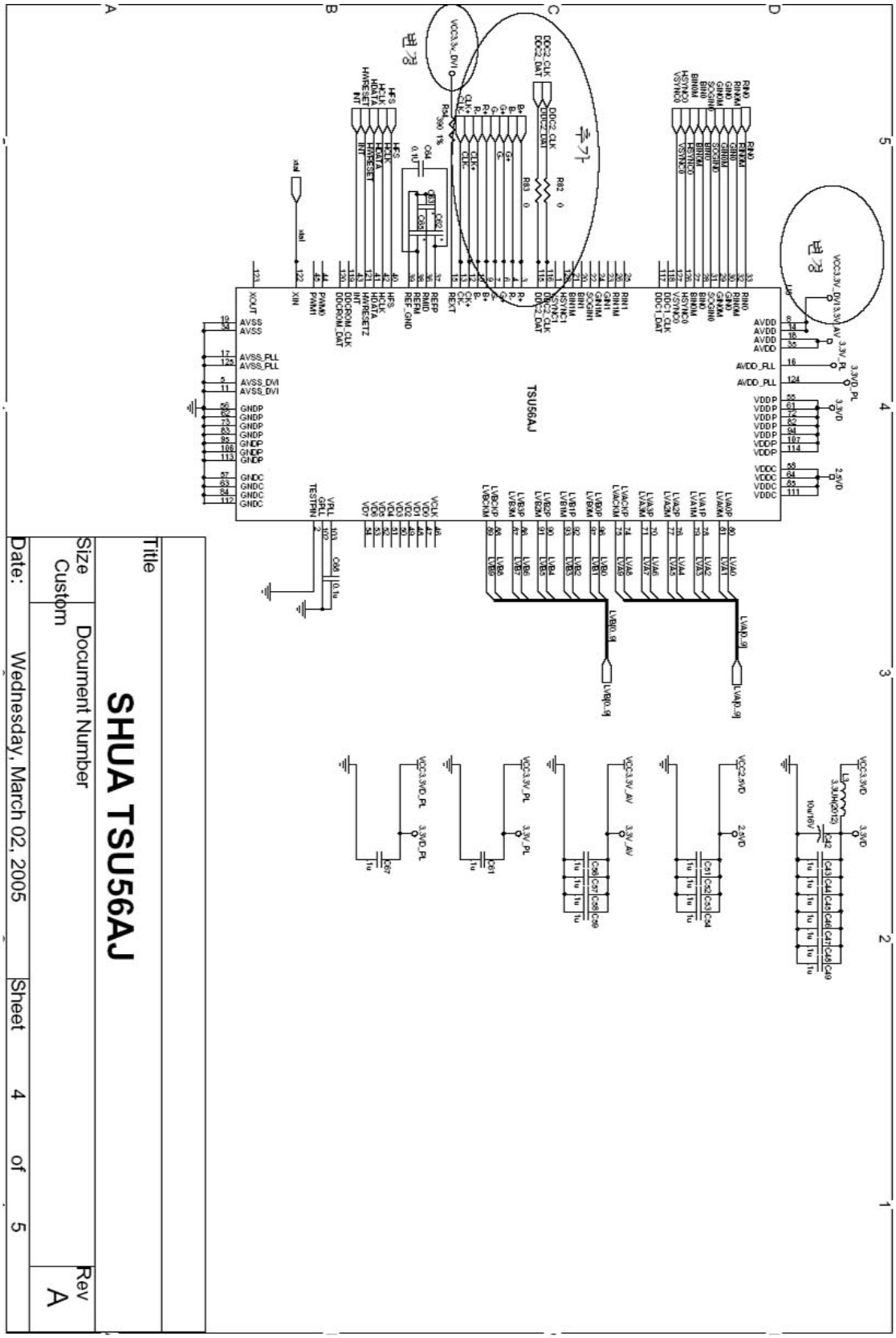

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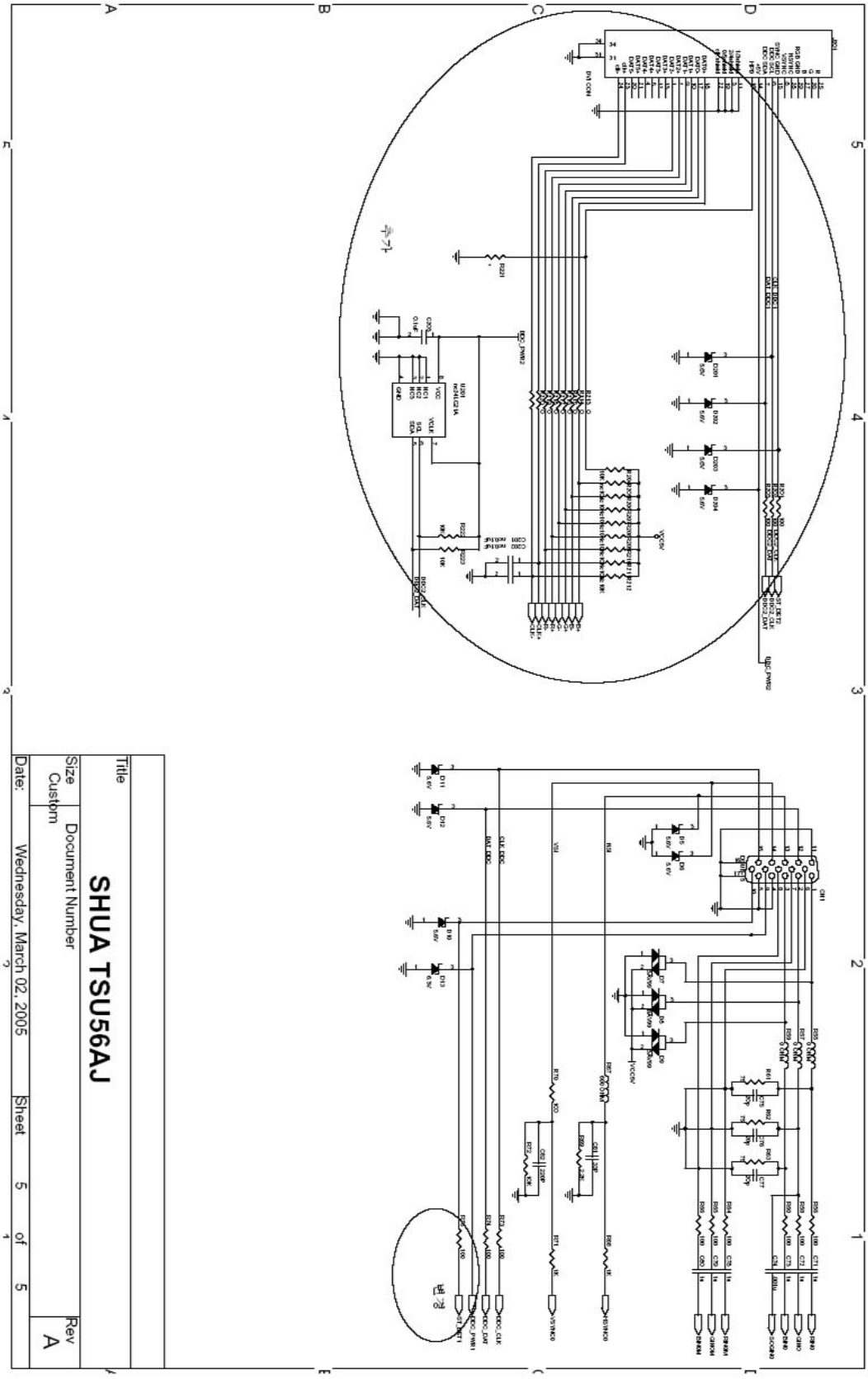

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