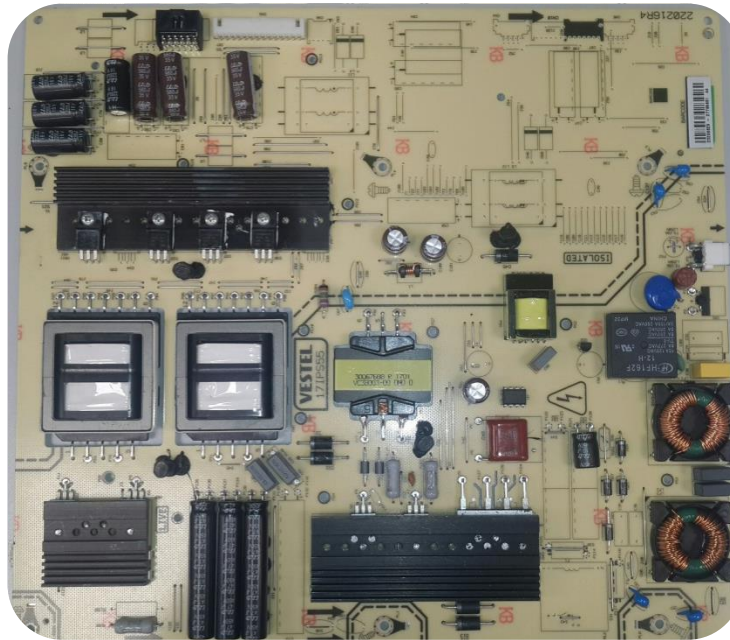
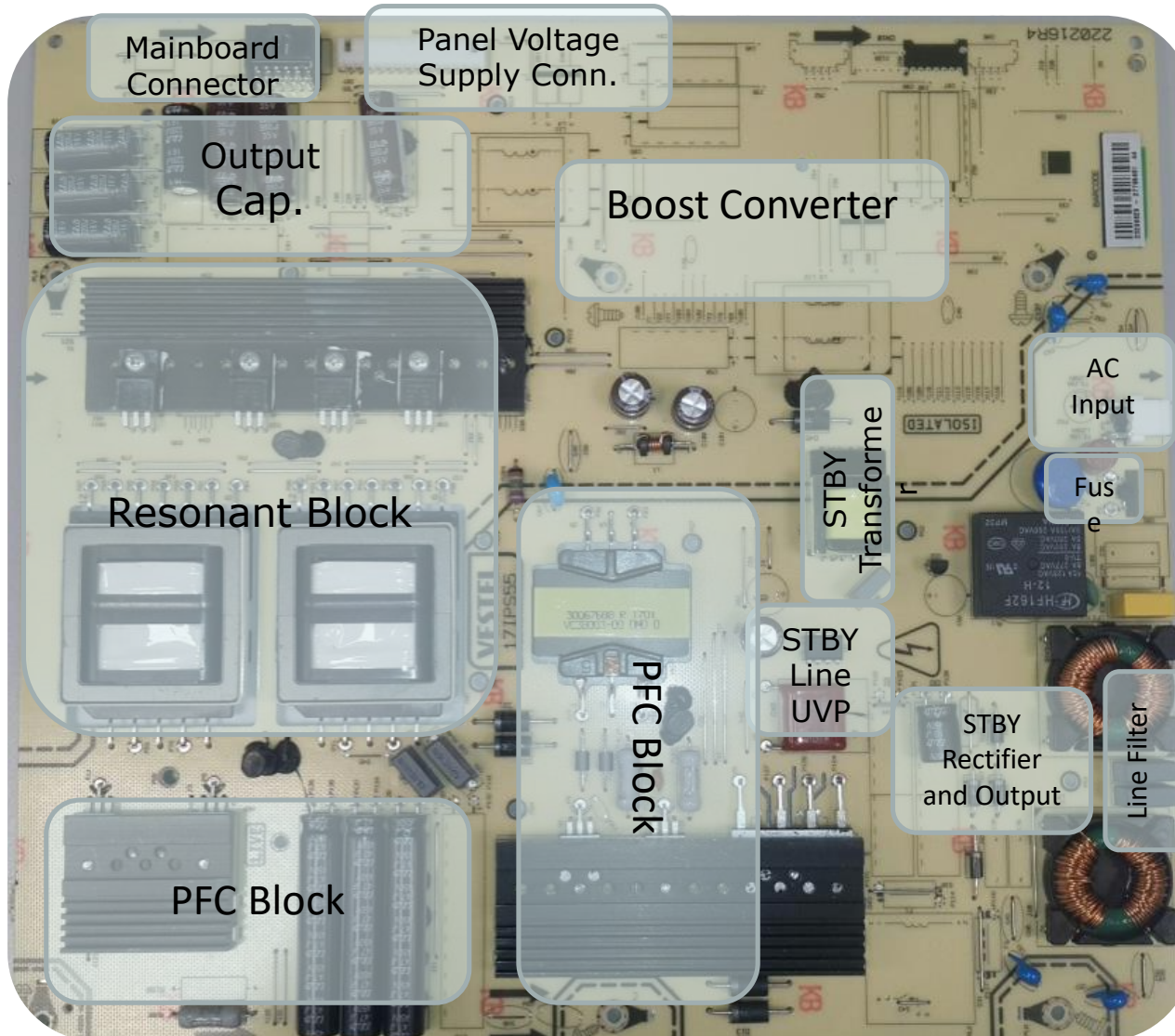


# IPS55

## Power Board Presentation

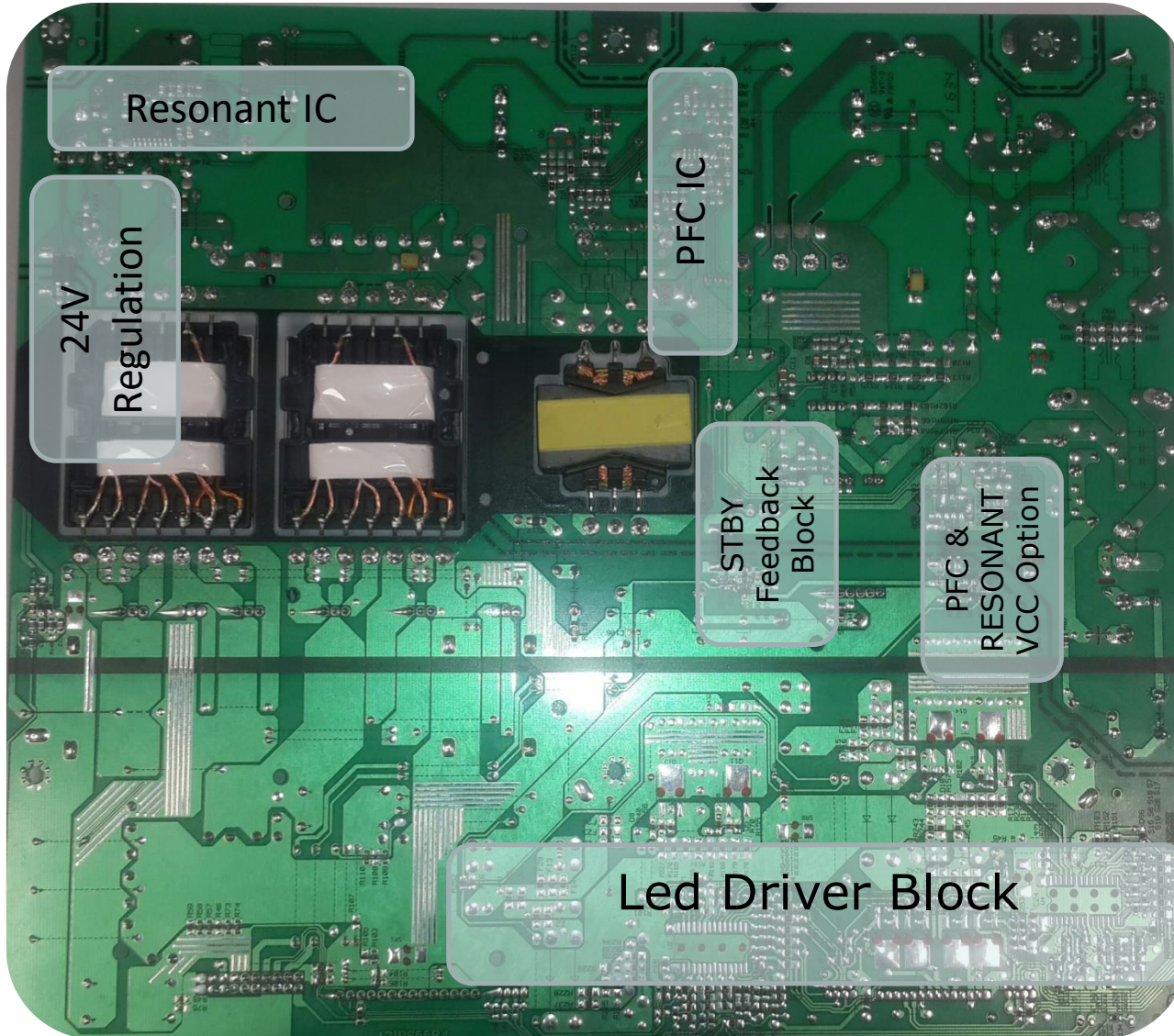


# • IPS55 Power Board – Block Diagram - Top View





# • IPS55 Power Board – Block Diagram - Bottom View



# IPS55 Power Board – General Features

## Board Description

17IPS55 board includes AC/DC a full bridge diode rectifier, a DC/DC low power Flyback converter for stand-by voltage +5V and half-bridge resonant converter for +24V & +12V and two DC/DC Boost Converter stages having 24V input voltages. Total maximum input power is 250W at 100Vac input voltage.

This power board has low power consumption for stand-by mode. The only voltage is supplied at stand-by condition is 5V.

**The maximum component height on board is max 12mm.**

# IPS55 Power Board – Input/Output Spec

## Input Specifications

Standard Voltage Range	AC 220V-240V
Minumum-Maximum Voltage Range	AC 100V-264V
Frequency Range	50Hz – 60Hz

## Output Specifications

Output Name	Output Typical (V)	Variable Voltage Range (V)	Voltage Tolerance (%)	Output Current (A)	
				Min	Max.
* +5V_Stby	5.0	4.82-5.72	+/- 4	0	1
+12V	12	11.9-12.17	+/-2	0	6
+24V	24	23.8-24.25	+/-2	0	6

**For low power consumption in stand\_by mode, +24V and +12V outputs is not activated. The only voltage in stand\_by mode is 5V and allowed maximum current is 20mA in this condition.**

# IPS55 Power Board – Connector Pin Assignment

## CN2– INPUT

PIN	SIGNAL NAME	DESCRIPTION
1	L	AC INPUT 100~264V
2	N	NEUTRAL

## CN1– INPUT

CN1 is only for rocker switch option.

PIN	SIGNAL NAME	DESCRIPTION
1	A	AC Line
2	B	AC Line Switched

## CN6\*&CN7–INPUT

CN6\*: CN6 is the optional use of CN7..

PIN	SIGNAL NAME	DESCRIPTION
2	2D-3D OPS.	3D OPS. ON/OFF ON: 3V-5V OFF: 0V
3	ST_BY	STAND-BY MODE ON/OFF ON: 3V-5V OFF: 0V
5	BL_ON/OFF	BACKLIGHT ON/OFF ON:3V-5V OFF:0V
7	DIM_PWM	ANALOG INPUT FOR ANALOG DIMING PWM INPUT FOR DIJITAL DIMMING

# IPS55 Power Board – Connector Pin Assignment

## CN4-INPUT

PIN	SIGNAL NAME	DESCRIPTION
2	LED6_S	Sensing feedback voltage and current of sixth LED bar.
3	LED1_S	Sensing feedback voltage and current of first LED bar.
4	LED5_S	Sensing feedback voltage and current of fifth LED bar.
5	LED2_S	Sensing feedback voltage and current of second LED bar.
6	LED4_S	Sensing feedback voltage and current of fourth LED bar.
7	LED3_S	Sensing feedback voltage and current of third LED bar.

## CN5-INPUT

PIN	SIGNAL NAME	DESCRIPTION
2	LED9_S	Sensing feedback voltage and current of ninth LED bar.
3	LED10_S	Sensing feedback voltage and current of tenth LED bar.
4	LED8_S	Sensing feedback voltage and current of eighth LED bar.
5	LED11_S	Sensing feedback voltage and current of eleventh LED bar.
6	LED7_S	Sensing feedback voltage and current of seventh LED bar.
7	LED12_S	Sensing feedback voltage and current of twelfth LED bar.

# IPS55 Power Board – Connector Pin Assignment

## CN8-INPUT

PIN	SIGNAL NAME	DESCRIPTION
1	2D-3D OPS.	3D OPS. ON/OFF ON: 3V-5V OFF: 0V
2	2D-3D OPS.	3D OPS. ON/OFF ON: 3V-5V OFF: 0V

## CN9-INPUT

PIN	SIGNAL NAME	DESCRIPTION
2	LED11_S	Sensing feedback voltage and current of eleventh LED bar.
3	LED7_S	Sensing feedback voltage and current of seventh LED bar.
6	LED1_S	Sensing feedback voltage and current of first LED bar.
7	LED5_S	Sensing feedback voltage and current of fifth LED bar.

## CN3-INPUT

PIN	SIGNAL NAME	DESCRIPTION
1	BL_ON/OFF	BACKLIGHT ON/OFF ON:3V-5V OFF:0V
2	DIM_PWM	ANALOG INPUT FOR ANALOG DIMING; PWM INPUT FOR DIJITAL DIMMING
3	2D-3D OPS.	3D OPS. ON/OFF ON: 3V-5V OFF: 0V



# IPS55 Power Board – Connector Pin Assignment

## CN6\*&CN7–OUTPUT

PIN	SIGNAL NAME	DESCRIPTION
1	+ 24V_VCC	DC OUTPUT 23.8V ~ 24.25V
4	GND	GROUND
6	GND	GROUND
8	GND	GROUND
9	+5V_STBY	DC OUTPUT 4.82V ~ 5.72V
10	+12V_VCC	DC OUTPUT 11.9V ~ 12.17V
11	+12V_VCC	DC OUTPUT 11.9V ~ 12.17V
12	+12V_VCC	DC OUTPUT 11.9V ~ 12.17V
13	+12V_VCC	DC OUTPUT 11.9V ~ 12.17V
14	+12V_VCC	DC OUTPUT 11.9V ~ 12.17V
15	+24V_VCC	DC OUTPUT 23.8V ~ 24.25V
19	GND	GROUND
20	GND	GROUND

CN6\*: CN6 is the optional use of CN7.

# IPS55 Power Board – Connector Pin Assignment

## CN4/5/9-OUTPUT

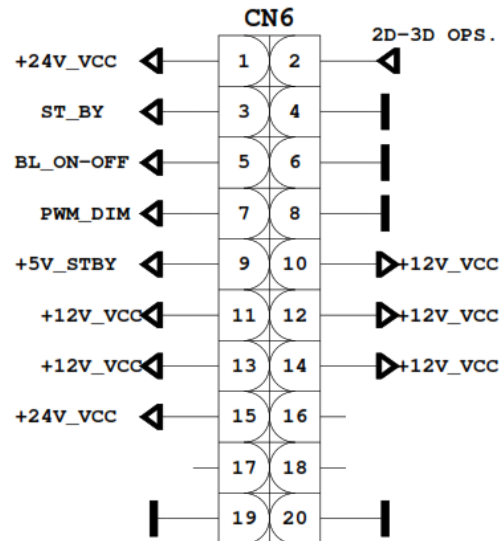
PIN	SIGNAL NAME	DESCRIPTION
1	V_LED1	Variable DC Output
8	V_LED1	Variable DC Output

## CN3-OUTPUT

PIN	SIGNAL NAME	DESCRIPTION
4	GND	GROUND
5	GND	GROUND
6	GND	GROUND
7	GND	GROUND
8	+24V_VCC	DC OUTPUT 23.8V ~ 24.25V
9	+24V_VCC	DC OUTPUT 23.8V ~ 24.25V
10	+24V_VCC	DC OUTPUT 23.8V ~ 24.25V
11	+24V_VCC	DC OUTPUT 23.8V ~ 24.25V
12	+24V_VCC	DC OUTPUT 23.8V ~ 24.25V

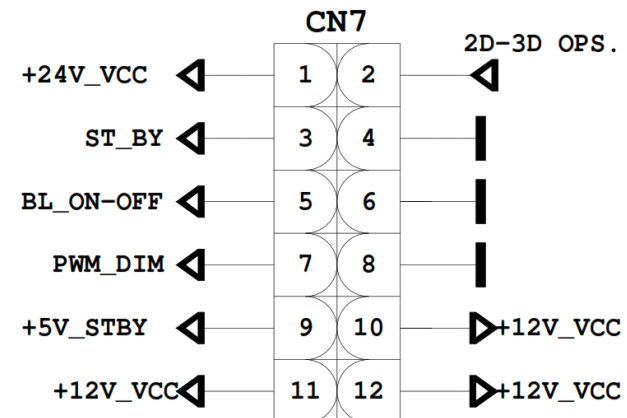
# • 17IPS11 Power Board – Mainboard-Power Connector

**MB SOCKET**

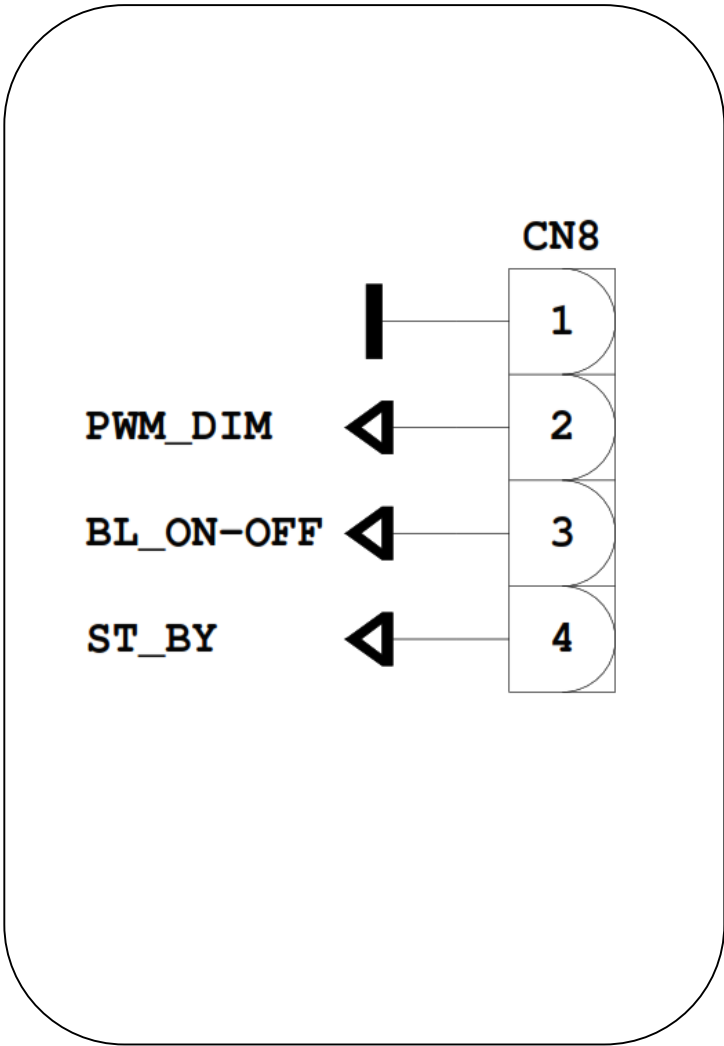
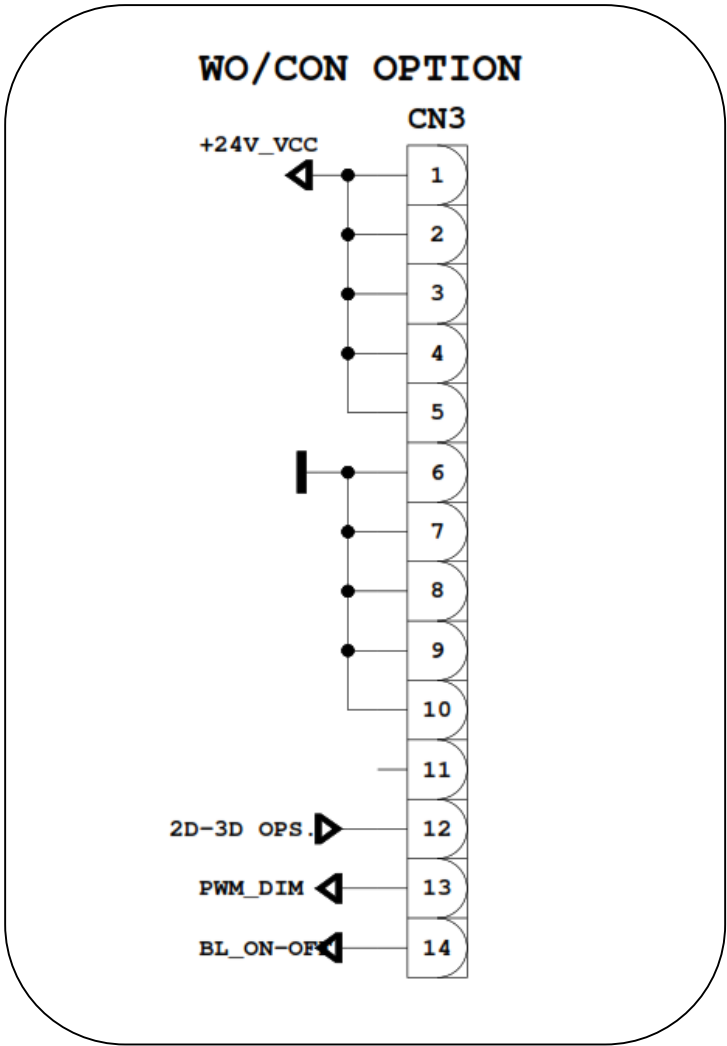


2x6 PINLI MB SOKET OPS.

**2x6 PIN MB SOCKET OPTION**



# • 17IPS11 Power Board – Panel-Power Connector

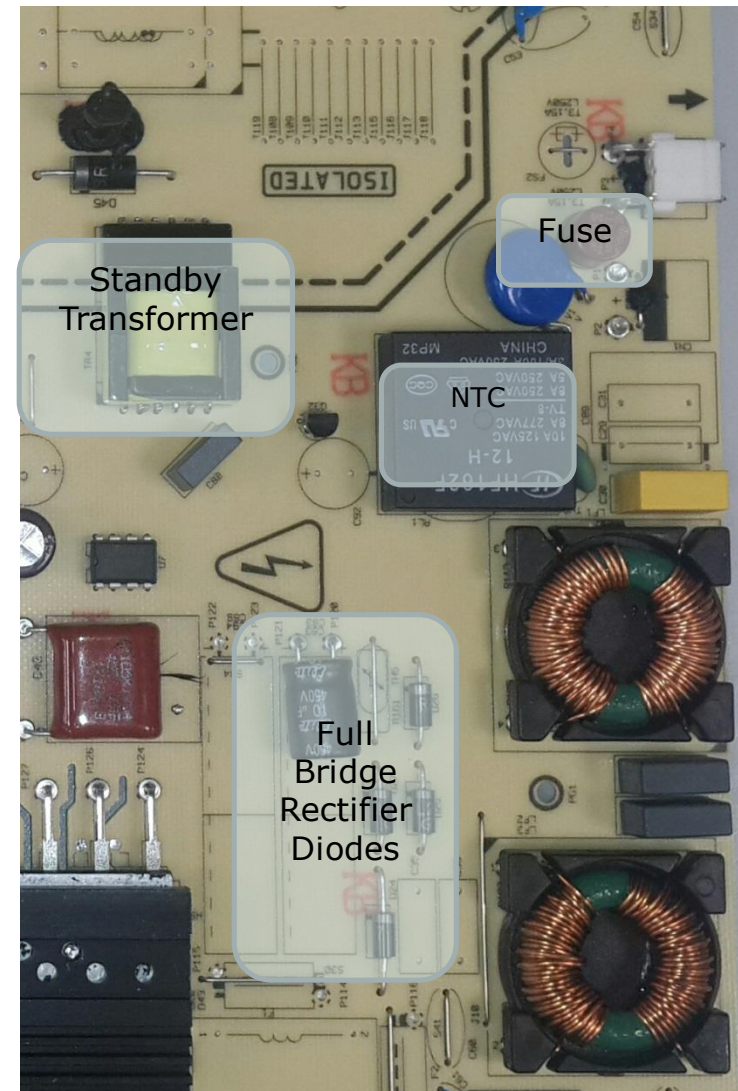


# IPS55 Power Board – Trouble Shooting & Solution

## Problem 1: DS is not working

Check

- Fuse
- NTC
- Full bridge rectifier diodes
- Standby Transformer

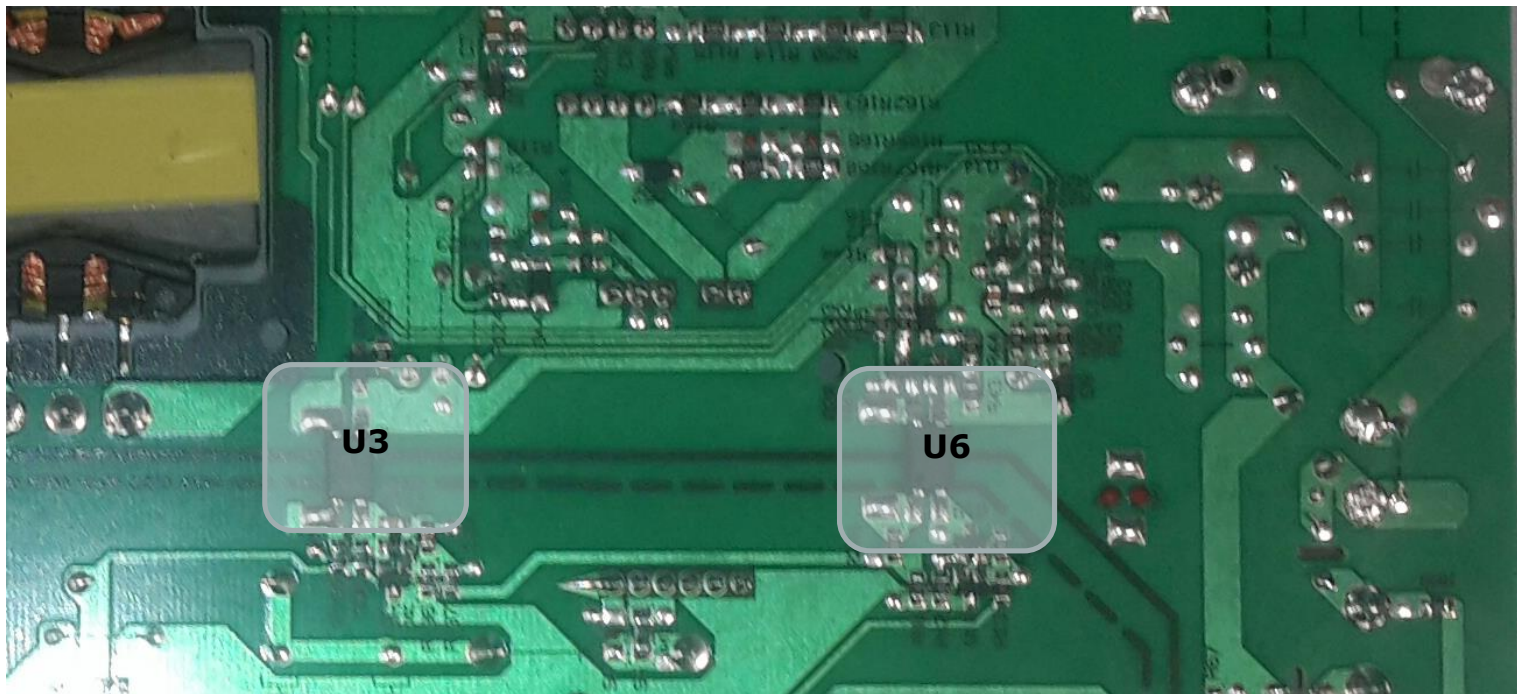




# IPS55 Power Board – Trouble Shooting & Solution

## Problem 1: DS is not working

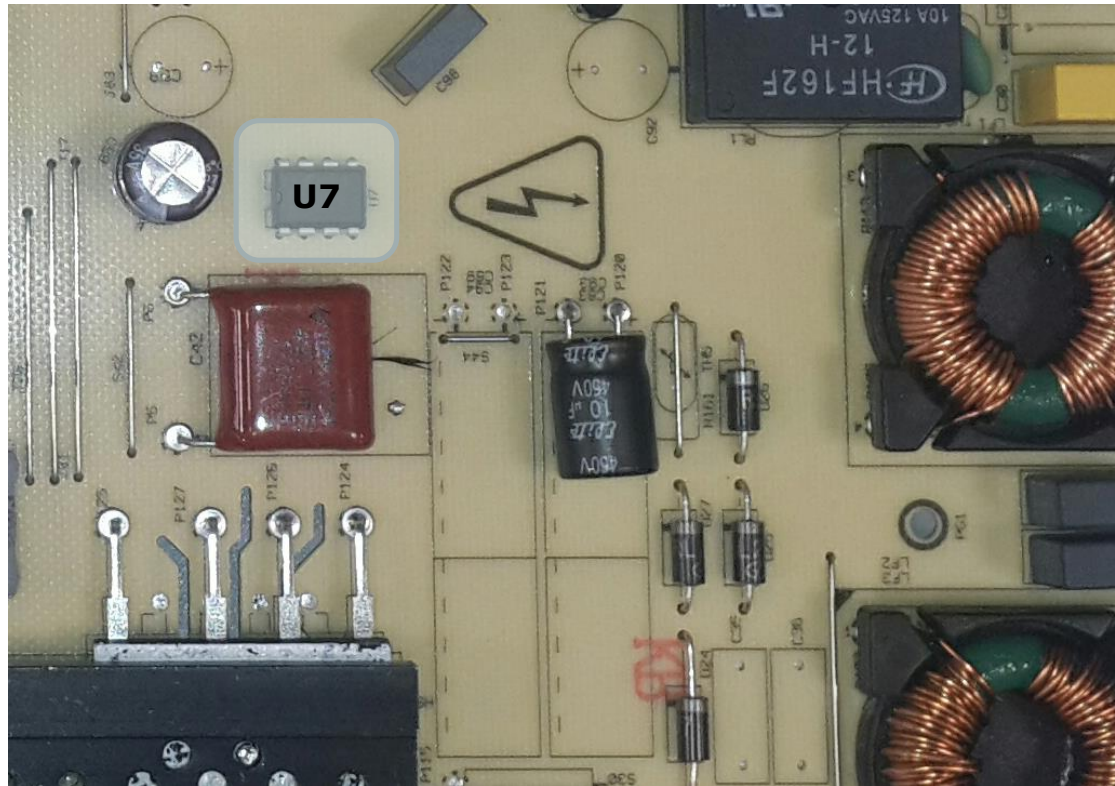
Check U3 and U6 diodes are ok or broken.



# IPS55 Power Board – Trouble Shooting & Solution

## Problem 1: DS is not working

Check U7 Flyback SMPS Controller IC

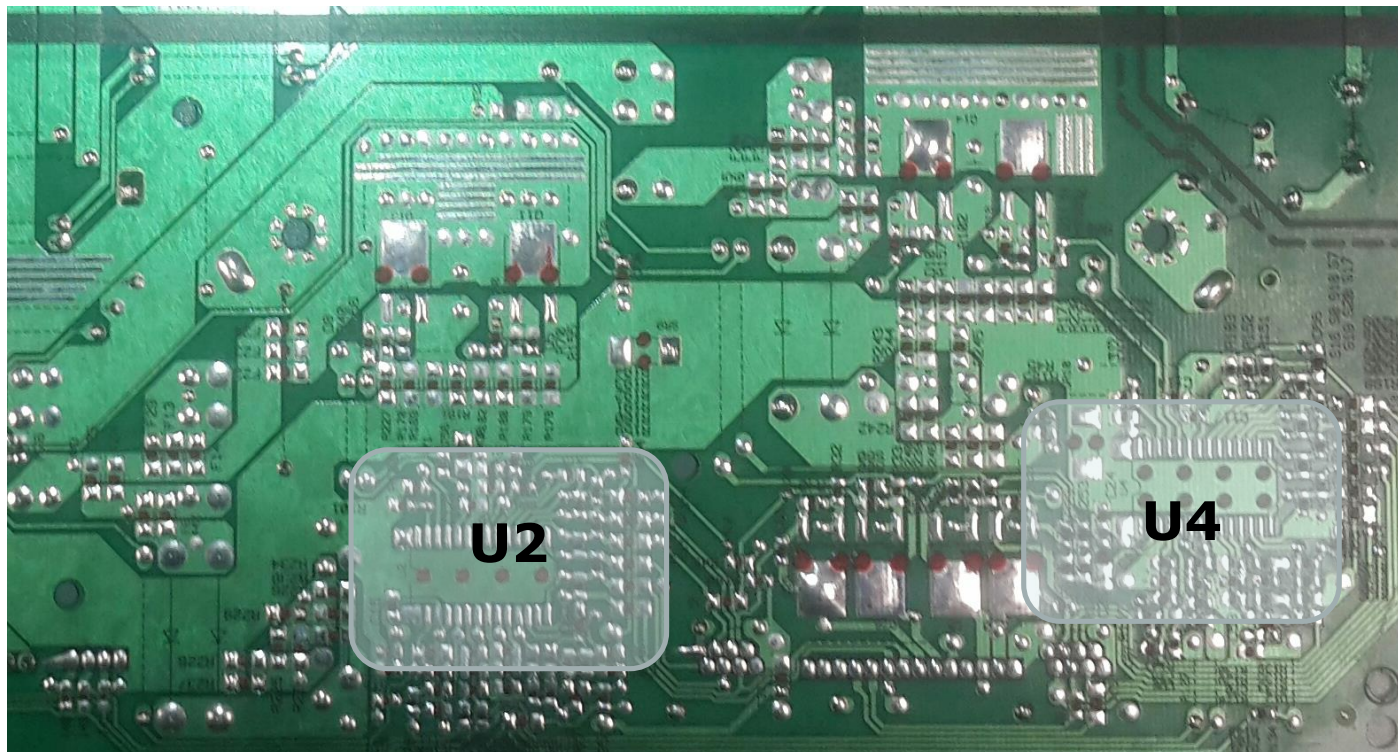




## IPS55 Power Board – Trouble Shooting & Solution

### Problem 2: DS is working but there is no backlight

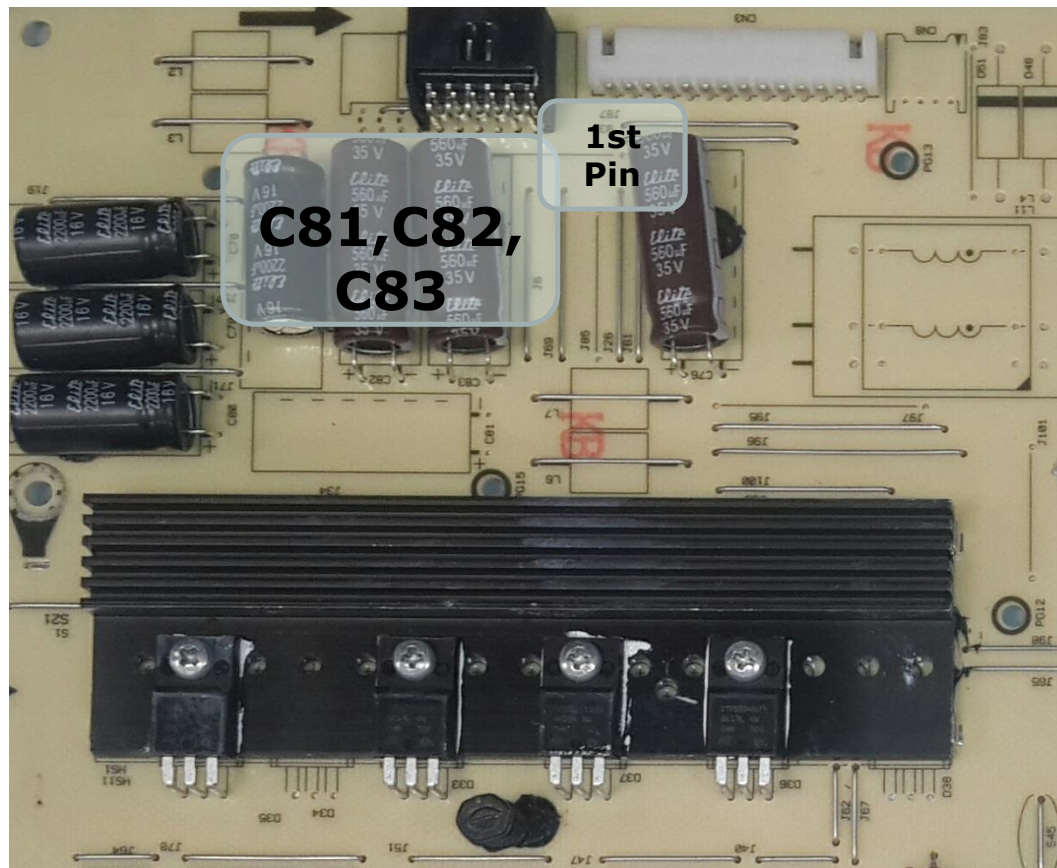
Check U2 is OK or broken and pins of U4 LED Driver IC



# IPS55 Power Board – Trouble Shooting & Solution

## Problem 3: DS is working but there is no sound

Check pin 1 of C81,C82,C83 is short circuit or not and 24V on first pin of MB connector.



# THANK YOU

Vestel Application Engineering Department

HBB - 2017