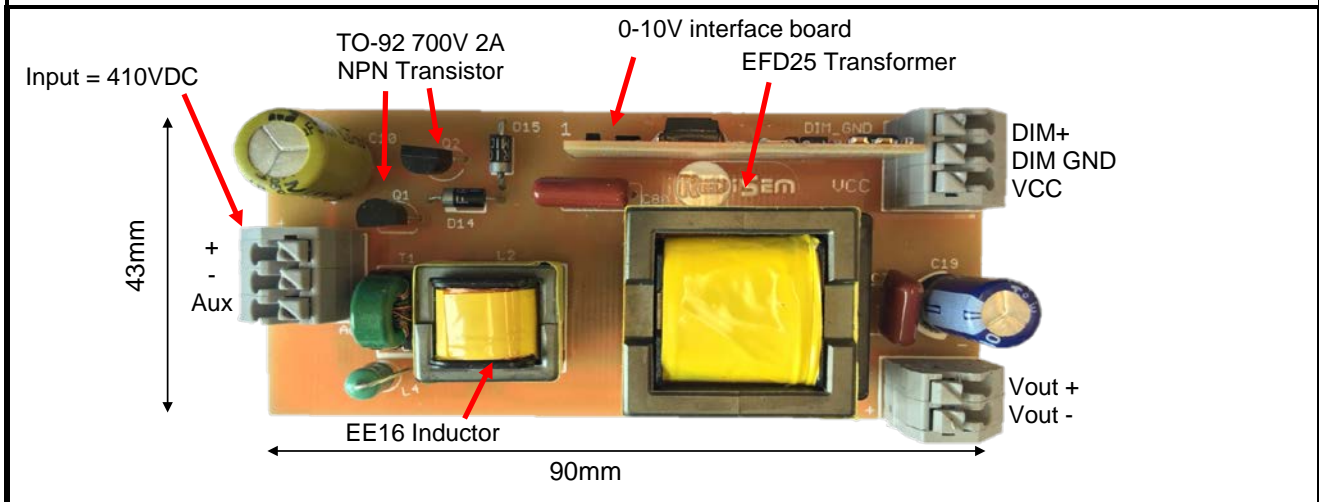




## 75W LC LED Vin=410V Vout=35V~54V 1400mA DIM



<b>RediSem IC</b>	RED2821 SO8 LLC LED Driver IC
<b>Output Power</b>	75W
<b>Output Current</b>	1400mA Constant Current with Dimming
<b>Load Regulation</b>	0.21% (35 - 54V)
<b>Output Voltage range</b>	35 - 54V
<b>Low Freq. Ripple</b>	0.79% @ full load
<b>Efficiency</b>	95% @ full load
<b>Input</b>	410VDC
<b>Size</b>	90mm x 43mm
<b>Protection</b>	Short circuit, Open Circuit, Over temperature, SELV
<b>Converter</b>	CC LLC converter
<b>Component Count</b>	44



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$I_o = 1400\text{mA}$  ( $V_{dim}=10\text{V}$ )

Input voltage (DC)	410V	
Input Power	53.00W	79.70W
Output Power	48.90W	75.60W
Output Voltage	35.00	54.00
Output current	1397mA	1400mA
Efficiency	92.25%	94.86%

No load condition

input voltage	410V
No Load Voltage (peak)	62.50V

Load regulation

input voltage	410V
output current load regulation 54V between 35V	0.21%

Current Ripple for Low Frequency Ripple only

output voltage	35V	54V
output current (pk-pk)	8mA	11mA
output current (avg)	1397mA	1400mA
output current ripple (low freq.)	0.57%	0.79%

Short circuit Protection

input voltage	410V
input power (output short circuit)	pass

**Note for this sample:**

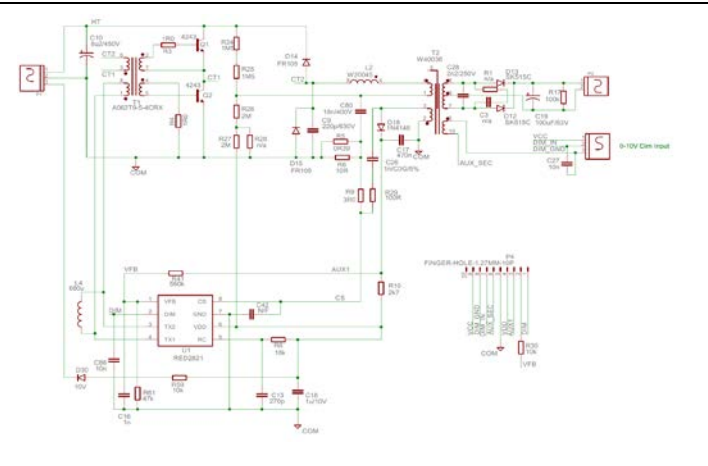
1. For proper design, Input capacitance should be at least 22uF Ecap with 410V average input
2. if aux power is provided, disconnect R27 and add R28=2M

Thermal Results (in a small box)	1400mA 54V	1400mA 35V
Ta	54.2C	54.0C
Q1	74.6C	72.4C
Q2	72.6C	71.0C
L2 core	93.1C	95.8C
L2 winding	93.5C	95.7C
T2 core	92.8C	89.7C
T2 winding	86.8C	82.9C



## 75W LC LED Vin=410V Vout=35V~54V 1400mA DIM

Code	Value	Description	Qty	Supplier	Part no.
C9	220p	1206 NPO 5% 630VDC	1	Murata	
C10	8u2	ELEC 20% 450VDC	1	Ymin	
C13	270p	0805 X7R 10% 25VDC	1		
C16	680p	0805 X7R 10% 25VDC	1		
C17	470n	0805 X7R 10% 50VDC	1		
C18	1u	0805 X7R 10% 10VDC	1		
C19	100u	ECAP 20% 63VDC	1	RZ Aishi	
C26	1n	0805 C0G 5% 50VDC	1		
C28	2n2	MKP 5% 250VDC	1		
C80	18n	MKP 5% 630VDC	1	Fara	
C86	10n	0805 X7R 10% 25VDC	1		
D12 13	5K515C	150V 5A Diode	2	TSC	
D14 15	FR105	Fast Diode 600VDC	2	TSC/Velhey	
D18	1N4148	small signal schottky diode	1		
D30	10V	zener diode	1		
L2	727uH	main inductor EE16	1		
L4	680uH	0410 inductor	1		
P1 P2 P3		terminal	3		
Q1 Q2	3DD4243DT	NPN transistor Tc-R2 700V 2A	2	Jilin Huawei	
R3 4	1R	0805 1% resistor	2		
R5	0R39	1206 1% resistor	1		
R6	10R	1206 1% resistor	1		
R8	18k	0805 1% resistor	1		
R9	3R	0805 1% resistor	1		
R10	1k5	0805 1% resistor	1		
R17	100k	1206 1% resistor	1		
R24 25	1k5	1206 1% resistor	2		
R26 27	2M	1206 1% resistor	2		
R29	100k	0805 1% resistor	1		
R29	10k	0805 1% resistor	1		
R41	470k	0805 1% resistor	1		
R59	10k	0805 1% resistor	1		
R61	47k	0805 1% resistor	1		
T1	A062 T9h5x4	Base Drive 18:6:6:1 turns	1	ACME	A062T9*5*4C(RX)
T2	EF025	output Transformer	1		
U1	RED2821	SGS IC	1	RediSam	
	Total		44		



Inductor	
CoreType	EE16
Material	PC44
Value	727 uH
Winding	12R x 11s x 0.10mm

Transformer	
Core type	EF025
Material	PC44
Pri	72h x 1s x 0.4mm ECW
Sec1	8r x 1s x 0.3mm ECW
Sec2	22r x 1s x 0.5mm TEXE
Sec3	22r x 1s x 0.5mm TEXE
Sec4	15r x 1s x 0.1mm ECW

次級要雙線並繞

