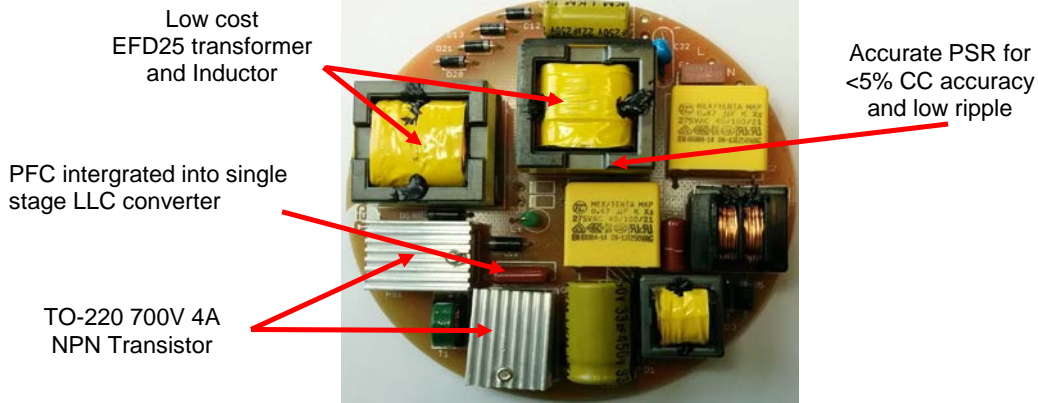




## 100W 500mA Low Ripple LED driver



<b>RediSem IC</b>	RED2511 SO8 LLC LED Driver IC
<b>Output Power</b>	100W
<b>Output Current</b>	500mA Constant Current
<b>Line regulation</b>	1.24% (198 - 264VAC)
<b>Load Regulation</b>	0.46% (181 - 190V)
<b>Output Voltage range</b>	181 - 190V
<b>Low Freq. Ripple</b>	2.28% @ 230V full load
<b>Efficiency</b>	91.9% @ 230V full load
<b>Input</b>	198-264VAC, 50Hz
<b>Survive input range</b>	170 - 320VAC
<b>PF</b>	0.98 @ 230V full load
<b>THD</b>	7% @ 230V full load
<b>Time to Light</b>	192ms
<b>Size</b>	245mm x 34mm x 18mm
<b>Protection</b>	Short circuit, Open Circuit, Over temperature, SELV
<b>Converter</b>	Single boost PPFC CC LLC converter
<b>Component Count</b>	57



# 100W 500mA Low Ripple LED driver

Input voltage	198V		230V		264V	
Input Power	97.59	102.90	97.95	102.80	98.56	103.30
Output Power	90.32	93.86	90.86	95.76	91.04	95.76
Output Voltage	181.00	190.00	181.00	190.00	181.00	190.00
Output current	499mA	494mA	502mA	504mA	503mA	504mA
Efficiency	92.55%	91.21%	92.76%	93.15%	92.37%	92.70%
Power Factor	0.98	0.97	0.98	0.98	0.95	0.96
THD	15.8%	22.0%	8.9%	9.5%	18.8%	18.2%

Test	Result	Condition
Peak no-load Voltage	230.00V	230VAC
Load Regulation 181 - 190V	-0.40%	230VAC
Time To light	192ms	230VAC

## Line regulation

input voltage	198V	264V
output current regulation at 190V	-2.02%	0.00%
output current regulation at 181V	-0.60%	0.20%

## Low Frequency Visible Current Ripple

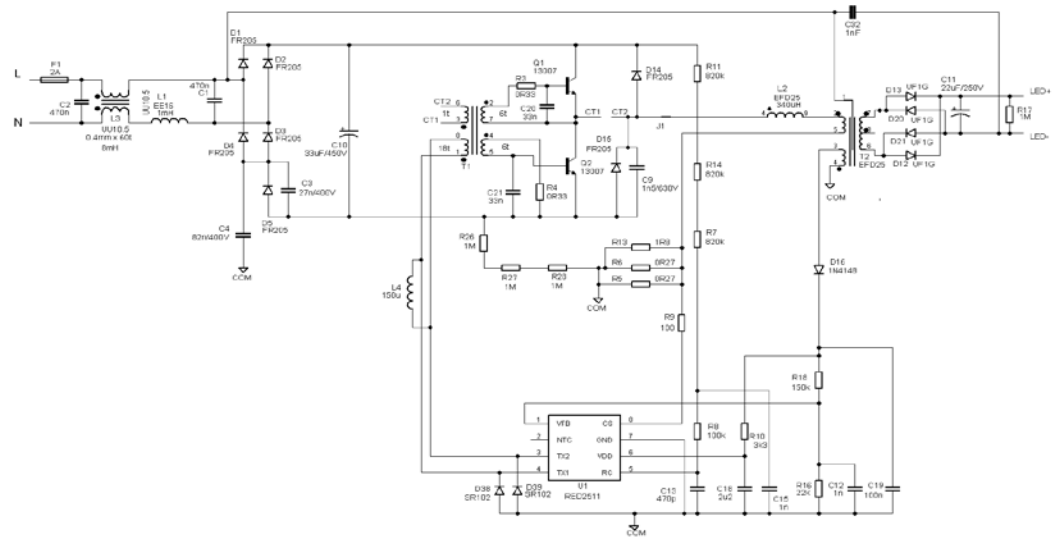
output voltage	181V	190V
output current (pk-pk)	22mA	28.00mA
output current ripple (pk-pk/avg)	2.19%	2.78%

Thermal Results (no cased)	198V 190V	264V 180V
Ta	56.0C	56.0C
Q1	81.0C	82.0C
Q2	82.0C	85.0C
L2 core	81.0C	91.0C
L2 winding	85.0C	97.0C
T2 core	80.0C	78.0C
T2 winding	85.0C	85.0C



## 100W 500mA Low Ripple LED driver

Code	Value	Description	Qty	Supplier	Part no.
C1 C2	470n	X2 MKP 20% 275VAC	2	Tenta	
C3	27n	MKP 5% 400VDC	1	Fara	
C4	82n	MKP 5% 400VDC	1	Fara	
C10	33uF	ELEC 20% 450VDC	1	Y-min	
C9	1n5	1206 NPO 5% 630VDC	1	Murata	
C12,15	1n	0805 X7R 10% 50VDC	2	Samsung	
C13	470p	0805 COG 5% 50VDC	1	Samsung	
C19	100n	0805 X7R 10% 50VDC	1	Samsung	
C18	2u2	0805 X7R 10% 16VDC	1	Samsung	
C25	22uF	ELEC 20% 500VDC	1	Y-min	
C20,21	33n	0805 X7R 10% 50VDC	2	Samsung	
C32	1n	Y-CAP	1		
D1,2,3,4,5	FR205	DO-41 600V 2A	5	TSC/Vishay	
D12, 13, 20, 21	UF1G	DO-41 400V 1A Schottky Diode	4		
D14,D15	FR205	DO-41 600V 2A	2	TSC/Vishay	
D16	1N4148	MiniMELF	1		
D38, 39	SR102	DO-41 20V 1A Schottky Diode	2		
F1	2A	Fuse	1		
L1	1mH	EE16	1		
L2	340uH	EFD25 Main Inductor	1		
L3	8mH	UU10.5 Common mode	1		
L4	150uH	0410 0.25W Axial	1		
R3,4	0R33	0805 0.06W 1.0%	2		
R5	0R27	1206 0.25W 1.0%	1		
R6	0R27	1206 0.25W 1.0%	1		
R7,11,14	820k	0805 0.125W 1.0%	3		
R8	100k	0805 0.06W 1.0%	1		
R9	100R	0805 0.06W 1.0%	1		
R10	3k3	0805 0.06W 1.0%	1		
R13	1R8	1206 0.25W 1.0%	1		
R16	22k	0805 0.06W 1.0%	1		
R17	1M	1206 0.25W 1.0%	1		
R18	150k	0805 0.06W 1.0%	1		
R26,27,28	1M	0805 0.125W 1.0%	3		
Q1,Q2	13007MD	TO126 4A NPN Transistor (Ts=2-2.5us)	2	Jilin Sino	
T1	A062 T954	Base Drive	1	ACMF	A062T9*5*4C/RX1
T2	EFD25	Output Transformer	1		
U1	RED2511	LLC LED controller IC	1	Redisem	
<b>TOTAL</b>			<b>56</b>		



Inductor	
Core type	EFD25
Material	PC44
Value	340uH
Winding	66T x 40s x 0.10mm

Transformer	
Core type	EFD25
Material	PC44
Value	27L x 1s x 0.56mm ECW
Aux	3T x 1s x 0.10mm ECW
Sec1	67L x 1s x 0.40mm TEXE