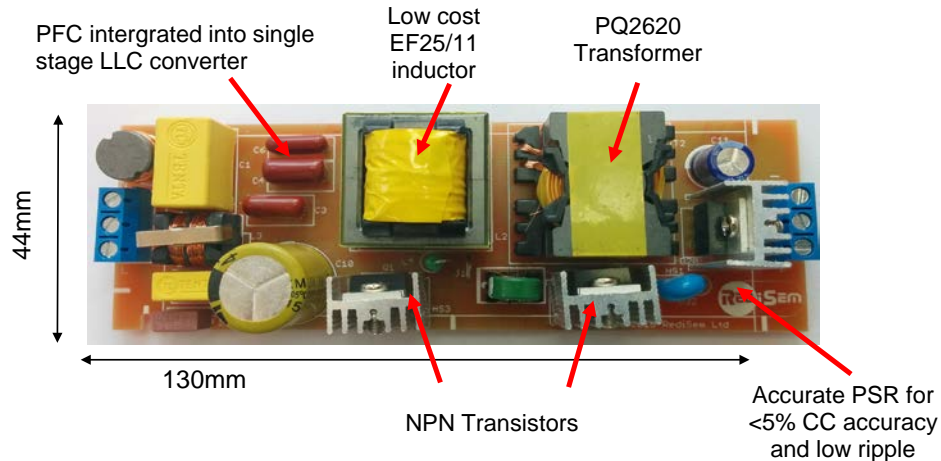




## 80W 2A Low Ripple LED driver



<b>RediSem IC</b>	RED2511 SO8 LLC LED Driver IC
<b>Output Power</b>	80W
<b>Output Current</b>	2A Constant Current
<b>Line regulation</b>	0.8% (198 - 264VAC)
<b>Load Regulation</b>	1.45% (40 - 30V)
<b>Output Voltage range</b>	40 - 30V
<b>Low Freq. Ripple</b>	1.7% @ 230V full load
<b>Efficiency</b>	92.2% @ 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>	5.8% @ 230V full load
<b>Time to Light</b>	108ms
<b>Size</b>	112mm x 39mm x 23mm
<b>Protection</b>	Short circuit, Open Circuit, Over temperature, SELV
<b>Converter</b>	Dual boost PPFC CC LLC converter
<b>Component Count</b>	59



## 80W 2A Low Ripple LED driver

Input voltage	198V		230V		264V	
Input Power	66.97	88.05	67.20	88.15	67.48	88.45
Output Power	60.54	80.84	60.75	81.24	60.90	81.52
Output Voltage	30.00	40.00	30.00	40.00	30.00	40.00
Output current	2018mA	2021mA	2025mA	2031mA	2030mA	2038mA
Efficiency	90.40%	91.81%	90.40%	92.16%	90.25%	92.17%
Power Factor	0.98	0.97	0.97	0.98	0.94	0.98
THD	7.0%	13.0%	11.1%	5.8%	13.2%	13.3%

Test	Result	Condition
Peak no-load Voltage	46.00V	230VAC
Load Regulation 40 - 30V	-0.30%	230VAC
Time To light	108ms	230VAC

### Line regulation

input voltage	198V	264V
output current regulation at 40V	-0.49%	0.34%
output current regulation at 30V	-0.35%	0.25%

### Low Frequency Visible Current Ripple

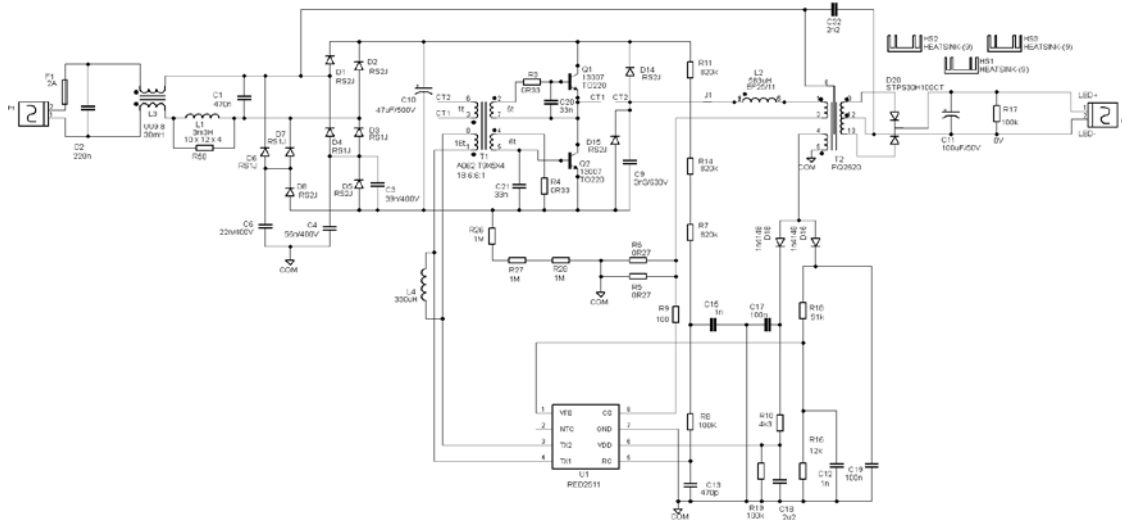
output voltage	30V	40V
output current (pk-pk)	54mA	70mA
output current ripple (pk-pk/avg)	1.33%	1.72%

Thermal Results (cased)	198V 40V	264V 30V
Ta	51.0C	53.0C
Q1	106.0C	113.0C
Q2	103.0C	110.0C
L2 core	97.0C	110.0C
L2 winding	103.0C	106.0C
T2 core	98.0C	91.0C
T2 winding	102.0C	103.0C



## 80W 2A Low Ripple LED driver

Code	Value	Description	Qty	Supplier	Part no.
C1	470n	X2 MKP 20% 275VAC	1	Tenta	
C2	220n	X2 MKP 20% 275VAC	1	Tenta	
C3	39n	MKP 5% 400VDC	1	Fara	
C4	56n	MKP 5% 400VDC	1	Fara	
C6	22n	MKP 5% 400VDC	1	Fara	
C10	47u	ELEC 20% 500VDC	1	Ymin	
C11	100u	ELEC 20% 50VDC	1	Aishi	
C9	3n3	1206 NPO 5% 630VDC	1	Murata	
C12,15	1n	0805 X7R 10% 50VDC	2	Samsung	
C13	470p	0805 COG 5% 50VDC	1	Samsung	
C17,19	100n	0805 X7R 10% 50VDC	2	Samsung	
C18	2u2	0805 X7R 10% 16VDC	1	Samsung	
C20,21	33n	0805 X7R 10% 50VDC	2	Samsung	
C32	2n2	Y-CAP	1		
D1,2,5,8	RS2J	SMA Fast Diode 600VDC	4	TSC/Vishay	
D3,4,6,7	RS1J	SMA Fast Diode 600VDC 1A	4	TSC/Vishay	
D20	STPS30H100CT	TO220 100V 30A Schottky Diode	1		
D14,D15	RS2J	SMA Fast Diode 600VDC 1A	2	TSC	
D16,18	LL4148	MiniMELF	2	Vishay	
F1	2A	Fuse	1		
L1	3.3mH	10x12 Drum Core	1		
L2	583uH	EF25/11 Main Inductor	1		
L3	20mH	UU9.8 Common mode	1		
L4	330uH	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		
R8,19	100k	0805 0.06W 1.0%	2		
R9	100R	0805 0.06W 1.0%	1		
R10	4k3	0805 0.06W 1.0%	1		
R16	12k	0805 0.06W 1.0%	1		
R17	100k	1206 0.25W 1.0%	1		
R18	91k	0805 0.06W 1.0%	1		
R26,27,28	1M	0805 0.125W 1.0%	3		
P1,P2		Terminal 2 Pin	2		
Q1,Q2	13007MD	TO-220 8A NPN Transistor (Ts=2-2.5us)	2	Jilin Sino	
T1	A062 T9x5x4	Base Drive , 18:6:6:1 turns	1	ACME	A062T9*5*4C(RX)
T2	PQ2620	Output Transformer	1	Ningbo Eilux Electric	W40025
U1	RED2511	LLC LED controller IC	1	Redisem	
<b>TOTAL</b>			<b>59</b>		



Inductor	
CoreType	EF25/25/11
Material	PC44
Value	583 uH
Winding	75t x 50s x 0.10mm

Transformer	
Core type	PQ26/20
Material	PC44
Pri	21t x 25s x 0.1mm ECW
Aux	3t x 1s x 0.15mm ECW
Sec1	12t x 1s x 0.6mm TEXE
Sec2	12t x 1s x 0.6mm TEXE

次級要雙線並繞