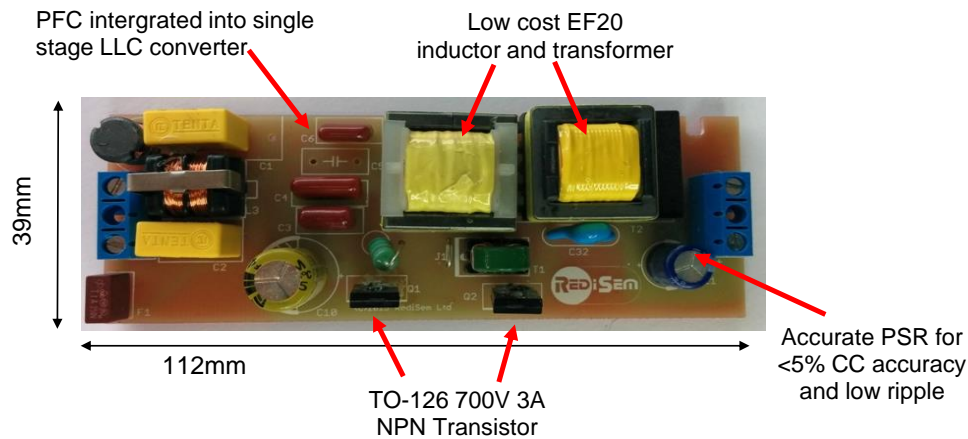




## 42W 1A Low Ripple LED driver



<b>RediSem IC</b>	RED2501 SO8 LLC LED Driver IC
<b>Output Power</b>	42W
<b>Output Current</b>	1A Constant Current
<b>Line regulation</b>	0.7% (198 - 264VAC)
<b>Load Regulation</b>	0.8% (42 - 30V)
<b>Output Voltage range</b>	42 - 30V
<b>Low Freq. Ripple</b>	4.3% @ 230V full load
<b>Efficiency</b>	91% @ 230V full load
<b>Input</b>	198-264VAC, 50Hz
<b>Survive input range</b>	170 - 320VAC
<b>PF</b>	0.97 @ 230V full load
<b>THD</b>	6.5% @ 230V full load
<b>Time to Light</b>	180ms
<b>Size</b>	112mm x 39mm x 24mm
<b>Protection</b>	Short circuit, Open Circuit, Over temperature, SELV
<b>Converter</b>	Dual boost PPFC CC LLC converter
<b>Component Count</b>	62



## 42W 1A Low Ripple LED driver

Input voltage	198V		230V		264V	
Input Power	33.72	45.77	33.89	45.84	34.02	46.02
Output Power	30.03	41.66	30.12	41.83	30.30	41.96
Output Voltage	30.00	42.00	30.00	42.00	30.00	42.00
Output current	1001mA	992mA	1004mA	996mA	1010mA	999mA
Efficiency	89.06%	91.03%	88.88%	91.26%	89.07%	91.17%
Power Factor	0.97	0.97	0.95	0.97	0.93	0.95
THD	7.5%	13.7%	13.4%	6.5%	22.1%	12.7%

Test	Result	Condition
Peak no-load Voltage	49.50V	230VAC
Load Regulation 42 - 30V	0.80%	230VAC
Time To light	180ms	230VAC

### Line regulation

input voltage	198V	264V
output current regulation at 42V	-0.40%	0.30%
output current regulation at 30V	-0.30%	0.59%

### Low Frequency Visible Current Ripple

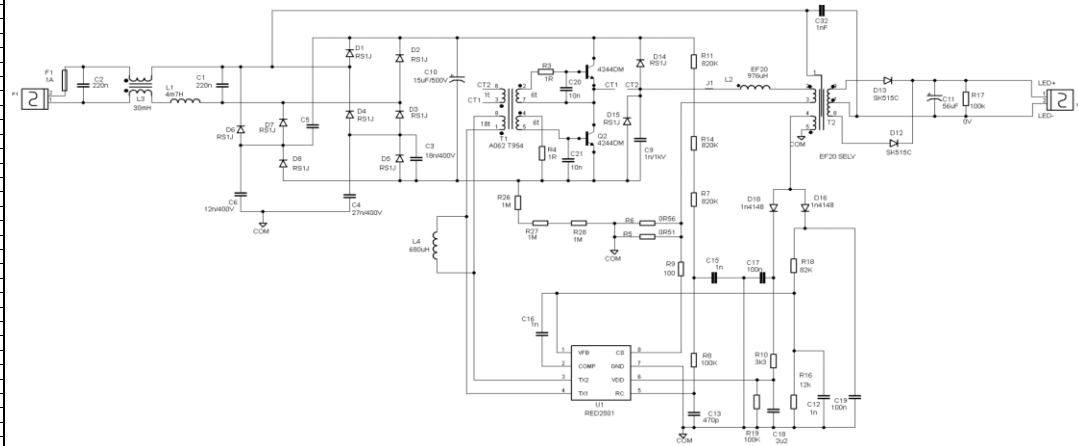
output voltage	30V	42V
output current (pk-pk)	30mA	43mA
output current ripple (pk-pk/avg)	2.99%	4.32%

Thermal Results (cased)	198V 42V	264V 30V
Ta	55.0C	55.4C
Q1	94.4C	101.0C
Q2	91.7C	101.0C
L2 core	97.0C	112.0C
L2 winding	96.6C	111.0C
T2 core	98.0C	96.3C
T2 winding	104.0C	104.5C
D12	94.4C	94.3C
D13	98.5C	98.6C



## 42W 1A Low Ripple LED driver

Code	Value	Description	Qty	Supplier	Part no.
C1,2	220n	X2 MKP 20% 275VAC	2		
C3	18n	MKP 5% 400VDC	1	Fara	
C4	27n	MKP 5% 400VDC	1	Fara	
C6	12n	MKP 5% 400VDC	1	Fara	
C10	15u	ELEC 20% 500VDC	1	Yimin	
C11	56u	ELEC 20% 50VDC	1	Aishi RZ range	
C9	1n	1206 NPO 5% e30VDC	1	Murata	
C12,15,16	1n	0805 X7R 10% 25VDC	3		
C13	470p	0805 COG 5% 50VDC	1		
C17,19	100n	0805 X7R 10% 50VDC	2		
C20 C21	10n	0805 X7R 10% 50VDC	2		
C18	2u2	0805 X7R 10% 16VDC	1		
C32	1n	Y-CAP	1		
D1,2,3,4,5,6,7,8,14,15	R5LJ	SMA Fast Diode 600VDC	10	TSC/Vishay	
D12,D13	SK515C	Schottky Diode, 150V 5A	2		
D16,18	LL4148	MiniMELF	2		
F1	1A	Fuse 1A T	1		
J1		Jumper wire	1		
L1	4.7mH 8x10	Drum Core	1	Ningbo Eilux Electric	W10001
L2	976uH	EF20/11 Main Inductor	1	Ningbo Eilux Electric	W20030
L3	30mH	UU9.8 Common Mode	1	Ningbo Eilux Electric	W30013
L4	680uH	0410 0.25W Axial	1		
R3,4	1R	0805 0.06W 1.0%	2		
R5	0R56	1206 0.25W 1.0%	1		
R6	0R51	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	3k3	0805 0.06W 1.0%	1		
R16	12k	0805 0.06W 1.0%	1		
R17	100k	1206 0.25W 1.0%	1		
R18	82k	0805 0.06W 1.0%	1		
R26,27,28	1M	0805 0.125W 1.0%	3		
P1,P2		Terminal 2 Pin	2		
Q1,Q2	3DD4244DM	NPN (Ts=2-2.5us) TO126 3A	2	Jilin Huawei	
T1	A062 T9x5x4	Base Drive: 1.8:5:6:1 turns	1	ACME	A062T9*5*4C(RX)
T2	EF20	Output Transformer	1	Ningbo Eilux Electric	W40022
U1	RED2501	LLC LED controller IC	1	RediSem	
<b>TOTAL</b>			<b>62</b>		



Inductor	
CoreType	EF20/11
Material	PC44
Value	976 uH
Winding	10St x 15s x 0.10mm

Transformer	
Core type	EF20
Material	PC44
Pri	47t x 2s x 0.3mm ECW
Aux	8t x 1s x 0.15mm ECW
Sec1	28t x 1s x 0.4mm TEXE
Sec2	28t x 1s x 0.4mm TEXE

次級要雙線並繞