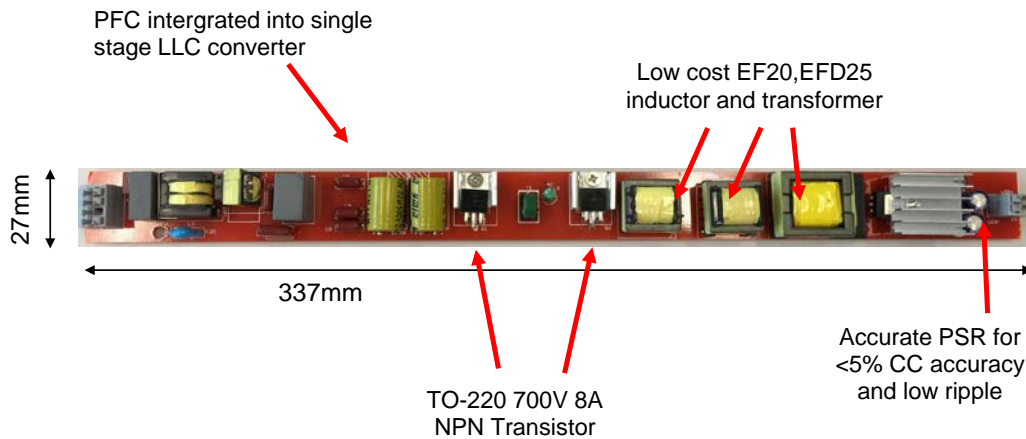




## 80W 2.0A Low Ripple LED driver



<b>RediSem IC</b>	RED2511 SO8 LLC LED Driver IC
<b>Output Power</b>	80W
<b>Output Current</b>	2.0A Constant Current
<b>Line regulation</b>	1% (198 - 264VAC)
<b>Load Regulation</b>	0.5% (40 - 30V)
<b>Output Voltage range</b>	40 - 30V
<b>Low Freq. Ripple</b>	4.49% @ 230V full load
<b>Efficiency</b>	92% @ 230V full load
<b>Input</b>	198-264VAC, 50Hz
<b>Survive input range</b>	170 - 320VAC
<b>PF</b>	0.95 @ 230V full load
<b>THD</b>	13% @ 230V full load
<b>Time to Light</b>	90ms
<b>Size</b>	337mm x 27mm x 20mm
<b>Protection</b>	Short circuit, Open Circuit, Over temperature, SELV
<b>Converter</b>	Triple boost PPFC CC LLC converter
<b>Component Count</b>	70



## 80W 2.0A Low Ripple LED driver

Input voltage	198V		230V		264V	
Input Power	65.74	85.67	65.78	86.07	66.05	86.23
Output Power	59.43	78.84	59.37	79.28	59.46	79.44
Output Voltage	30.00	40.00	30.00	40.00	30.00	40.00
Output current	1981mA	1971mA	1979mA	1982mA	1982mA	1986mA
Efficiency	90.40%	92.03%	90.26%	92.11%	90.02%	92.13%
Power Factor	0.98	0.98	0.96	0.98	0.92	0.95
THD	6.9%	11.6%	17.6%	6.1%	28.4%	17.9%

Test	Result	Condition
Peak no-load Voltage	49.30V	230VAC
Load Regulation 40 - 30V	-0.15%	230VAC
Time To light	90ms	230VAC

### Line regulation

input voltage	198V	264V
output current regulation at 45V	-0.56%	0.20%
output current regulation at 30V	0.10%	0.15%

### Low Frequency Visible Current Ripple

output voltage	30V	40V
output current (pk-pk)	50mA	70mA
output current ripple (pk-pk/avg)	2.53%	3.53%

Thermal Results (cased)	198V 40V	264V 30V
Ta	58.2	59.2
Q1	82.2	88.1
Q2	87.5	96.7
L2 core	99.3	104.1
L2 winding	96.4	107.9
T2 core	98.9	92.5
T2 winding	99.2	91.1
D20	94.1	106.9



## 80W 2.0A Low Ripple LED driver

Code	Value	Description	Qty	Supplier	Part no.
C1, C2	470n	X2 MKP 20% 275VAC	2	Tenta	
C3	18n	MKP 5% 400VDC	1	Fara	
C4, C6, C8	39n	MKP 5% 400VDC	3	Fara	
C7	22n	MKP 5% 400VDC	1	Fara	
C9	3n3	1206 NPO 5% 630VDC	1	Murata	
C10, C25	22u	ELEC 20% 500VDC	2	Ymin	
C11, C23	56u	ELEC 20% 50VDC	2	Aishi	
C12, C15	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	
C33	1n	Y-CAP	1		
D1,2,5,8,11,14,15	RS2J	SMA Fast Diode 600VDC	7	TSC/Vishay	
D3,4,6,7,9,10	RS1J	SMA Fast Diode 600VDC 1A	6	TSC/Vishay	
D20	STPS30H100CT	TO220 100V 30A Schottky Diode	1		
D16,18	LL4148	MiniMELF	2	Vishay	
F1	2A	Fuse	1		
L1	1.2mH	EE13	1	W20042	
L2, L5	250uH	EF20 Main Inductor	2	W20043	
L3	20mH	UU10.5 Common mode	1	W30019	
L4	470uH	0410 0.25W Axial	1		
R2	0R	1206 0.25W 1.0%	1		
R3,4	0R47	1206 0.25W 1.0%	2		
R5, R6	0R27	1206 0.25W 1.0%	2		
R7, R11	1M2	1206 0.125W 1.0%	2		
R8	100k	0805 0.06W 1.0%	1		
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		
R19	100k	0805 0.25W 1.0%	1		
R26, R28	1M5	1206 0.125W 1.0%	2		
R58	10k	1206 0.125W 1.0%	1		
P1,P2		Terminal 2 Pin	2		
Q1,Q2	13007MD	TO220 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	EFD25	Output Transformer	1	W40031	
HS1,HS2,HS3		Heatsink for Q1 Q2 D20	3		
U1	RED2511	LLC LED controller IC	1	Redisem	
<b>TOTAL</b>			<b>70</b>		

