



## RED2401 16W 450mA Low Ripple T8 LED driver with PFC



Low-profile small design on 1-sided PCB. RED2401 low-power LLC controller IC and RediSem's 1-stage PPFC LLC converter technology. High efficiency, compact and low-ripple for high quality T8 tube applications

- *RED2401 SOT23-6 controller IC*
- *Output: 37V, 450mA*
- *Mains range: 198-264Vac*
- *Efficiency: 89%*
- *Power Factor: 0.95*
- *LF current ripple: < 5%*
- *Magnetics: Standard EFD15*
- *Protection: SELV, SCP, OCP, OTP*
- *Transistors: TO92 1.5A 700V NPN*
- *PCB size (LxWxH): 164x17x12 mm*



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**Tested By / Date**      **Mark / 3June2015**

<b>Input voltage</b>	198V	230V		264V
<b>Load Condition</b>	100%	95%	100%	95%
Input Power	18.61W	18.41W	19.28W	18.64W
Output Power	16.58W	16.34W	17.17W	16.45W
Output Voltage	37.00V	35.15V	37.00V	35.15V
Output current	448mA	465mA	464mA	468mA
Output peak to peak current ripple	63mA	33mA	34mA	30mA
Output Ripple	7.0%	3.5%	3.7%	3.2%
Efficiency	89.07%	88.78%	89.05%	88.25%

<b>Input voltage</b>	198V	220V	230V	240V	264V
No Load Voltage	47.00V	47.80V	49.00V	49.40V	50.00V
No Load input power	0.04W	0.04W	0.04W	0.05W	0.05W
Short circuit protection	Pass	Pass	Pass	Pass	Pass

<b>PFC meets IEC61000-3-2</b>	230V	
	Half	Full
Power Factor	0.95	0.95
THD	17.50%	19.30%
3rd Harmonic	13.35%	14.50%
5th	6.70%	4.20%
7th	7.30%	9.40%
9th	1.70%	3.70%
11th	1.90%	4.00%
13th	2.70%	4.10%

<b>Time to light at FL ,230Vac</b>	118ms
<b>Peak Ecap Voltage 264V / 95%</b>	386V



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Code	Description	Qty
C1, C2	100nF X2 20% 275VAC	2
C3	5.6nF MKP 5% 400VDC	1
C4	12nF MKP 5% 400VDC	1
C9	150pF 1206 X7R 10% 500VDC	1
C10	6.8uF ELEC 20% 450VDC	1
C11	22uF ELEC RZ 20% 50VDC	1
C12	1nF 0805 X7R 10% 25VDC	1
C17, C19	100nF 0805 X7R 10% 25VDC	2
C18	1uF 0805 X7R 10% 16VDC	1
C32	1nF Y-cap	1
D1,2,3,4,5,6,7	FR105 Fast Diode 600VDC 1A + bridge	7
D12,13	SR1100 Schottky diode 1A 100VDC	2
D16,18	BAW56 dual diode	1
L1	4.7mH Drum Core 8X10mm	1
L2	EF15 inductor 1m5	1
L3	EF12 CM choke 10m	1
R3,4	3R3 0805 0.125W 1%	2
R5	0R68 0805 0.25W 1%	1
R6	10R 0805 0.25W 1%	1
R7,11,14	1.2M 0805 0.125W 1%	3
R9	100R 0805 0.125W 1%	1
R10	6k8 0805 0.125W 1%	1
R16	47k 0805 0.125W 1%	1
R17	100k 1206 0.25W 1%	1
R18	360k 0805 0.125W 1%	1
R25,26, 28	1M2 0805 0.125W 1%	3
Q1,Q2	3DD4242 1.5A 700V TO92	2
T1	Base Drive ACME A062 T954 18:6:6:1 turns	1
T2	EF15 transformer	1
F1	Fuse	1
U1	RED2401 SOT23-6 LED LLC controller IC	1
PCB	PCB	1
		45

