

Engineering Test Report (LNK605D for 3.15W power design, Rev.0)

PI China AE: TH
Date: Nov 26, 2009

1. Power supply specification:

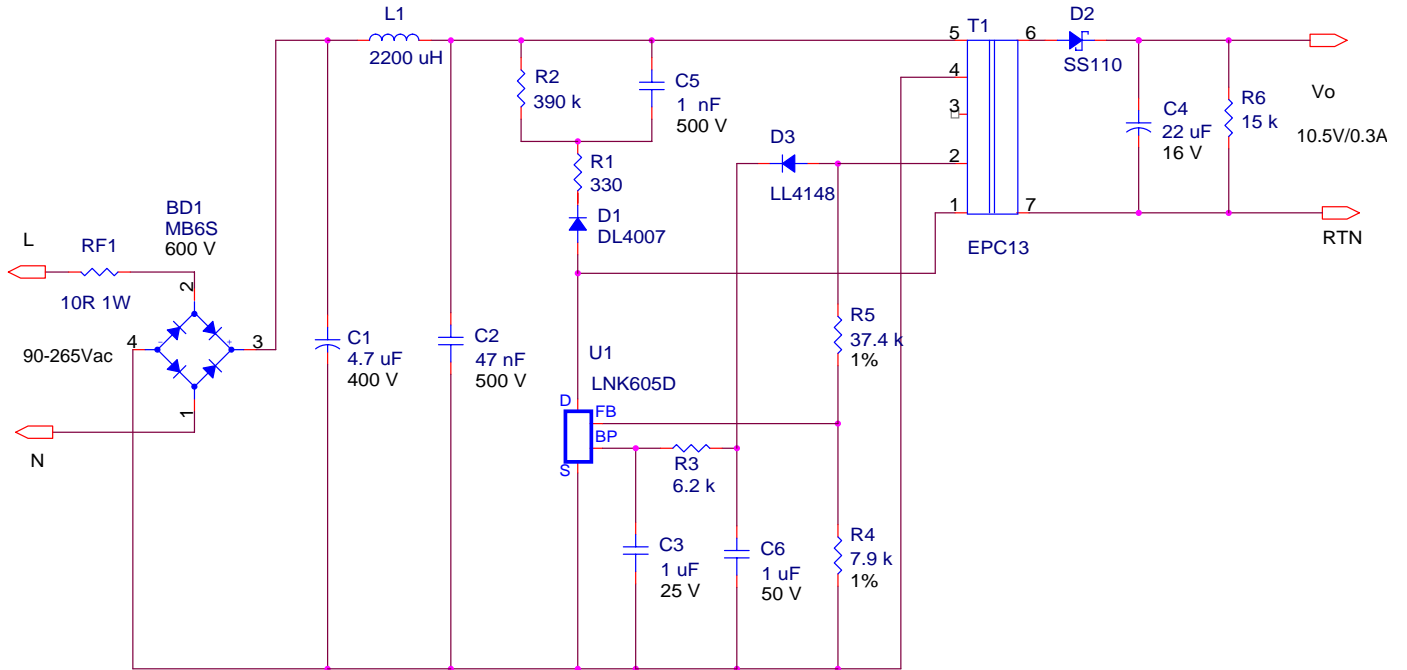
Description	Symbol	Min	Typ	Max	Units	comment/conditions
Input						
Voltage	V_{IN}	90		265	Vac	2 Wire no P.E
No-load Input Power				30	mW	Input 265 Vac
Output						
Load Output Voltage	V_{out}	10	10.5	11	V	
Load Output Current	I_{out}		0.3		A	
Total Output Power						
Continuous Output Power	P_{out}		6		W	Total power
Peak Output Power					W	
Conducted EMI Margin		6			dB	EN55022 class B
Ambient Temperature	T_{amb}	0		40	C	Free convection, sea level

2. Features:

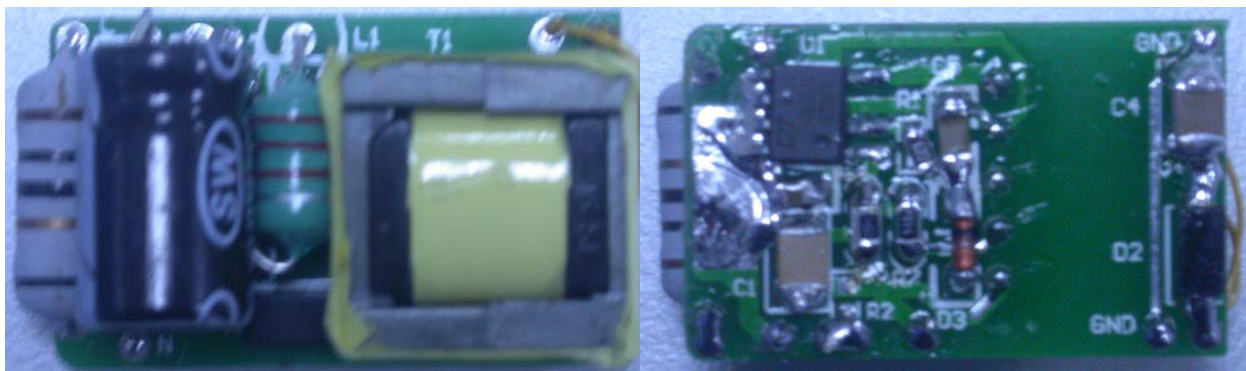
- 1) **Low part count, no Y-cap design**
- 2) **Universal input with one board**
- 3) **No Opto and TL431**



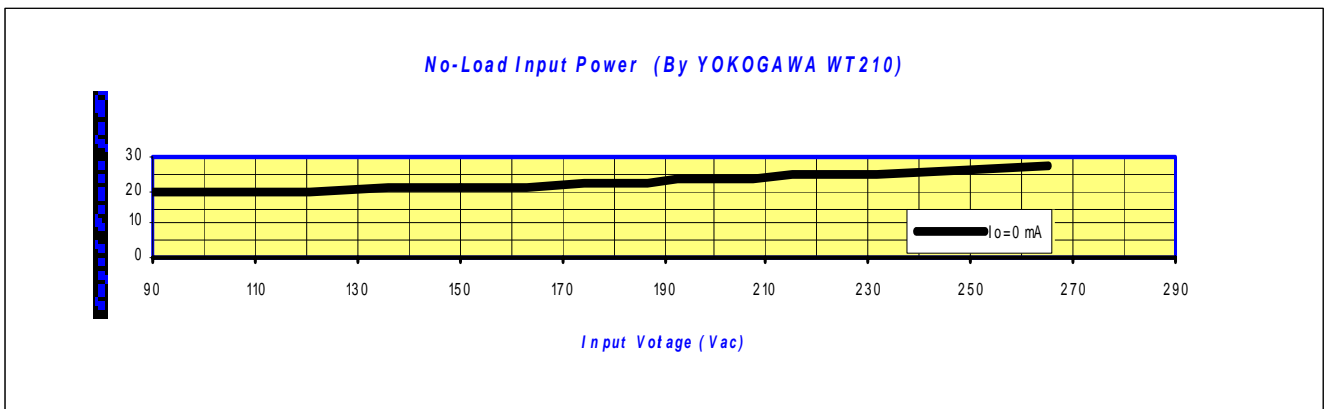
3. Schematic:



4. Photograph:



5. No-load power consumption:



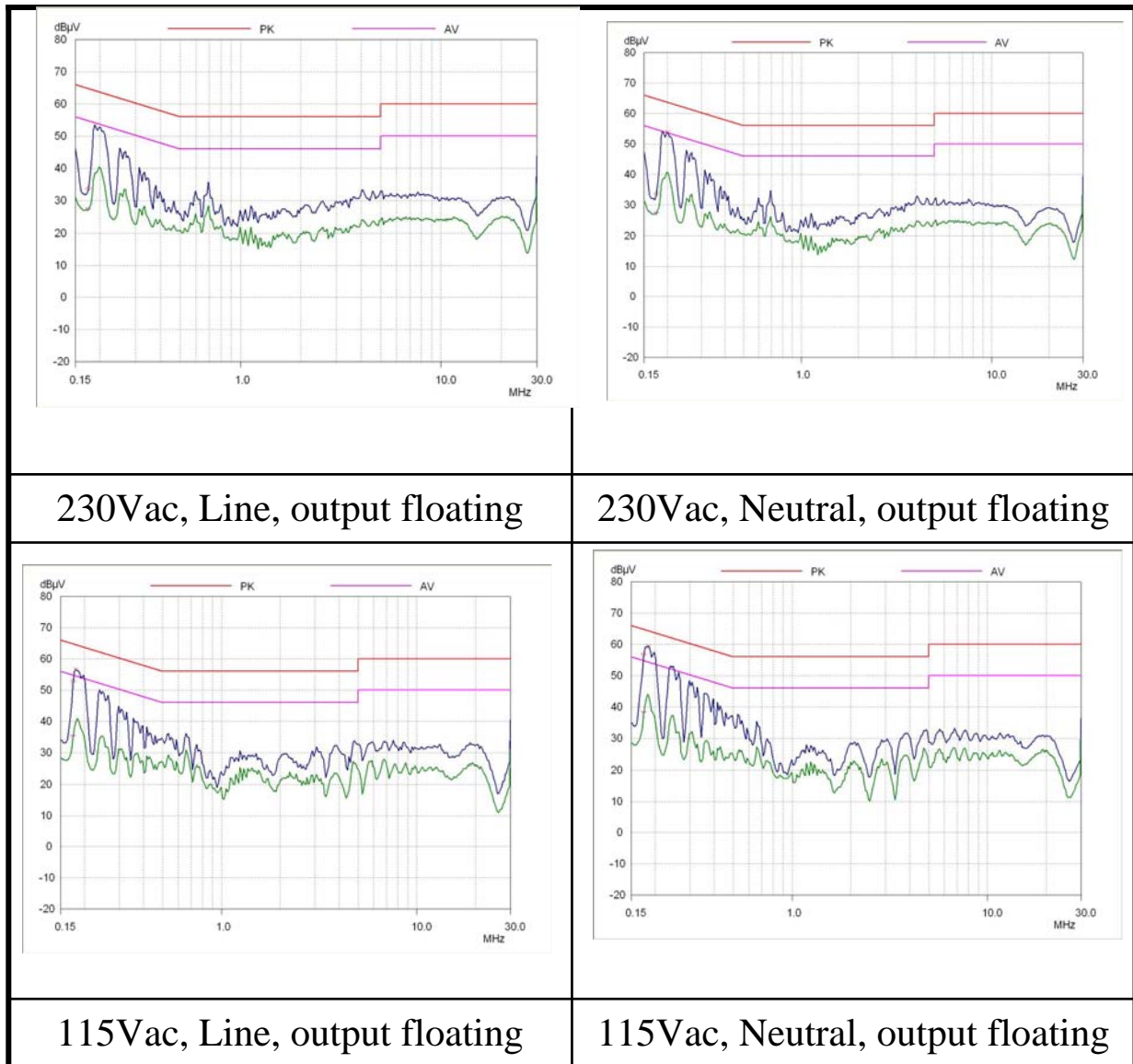
6. Efficiency test:

Loading	300mA
230Vac	78.50%
115Vac	79.30%



7. EMI performance @EN55022 class B Limited (QP&AV scan):

Loaded at 0.3A resistive load.



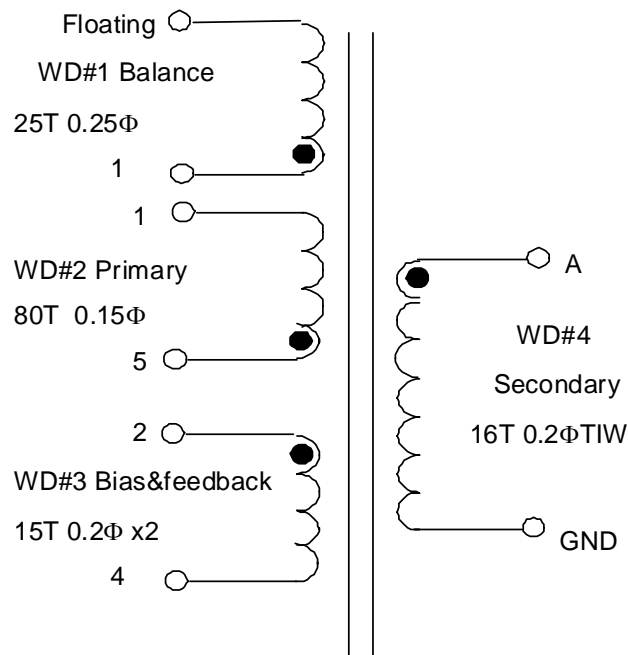
8. Transformer Information:

A. PARAMETERS:

$L_p = 950\mu\text{H} \pm 10\%$ @80KHz 1V

Leakage inductance: 20 μH max @80KHz 1V

B. SCHEMATIC:

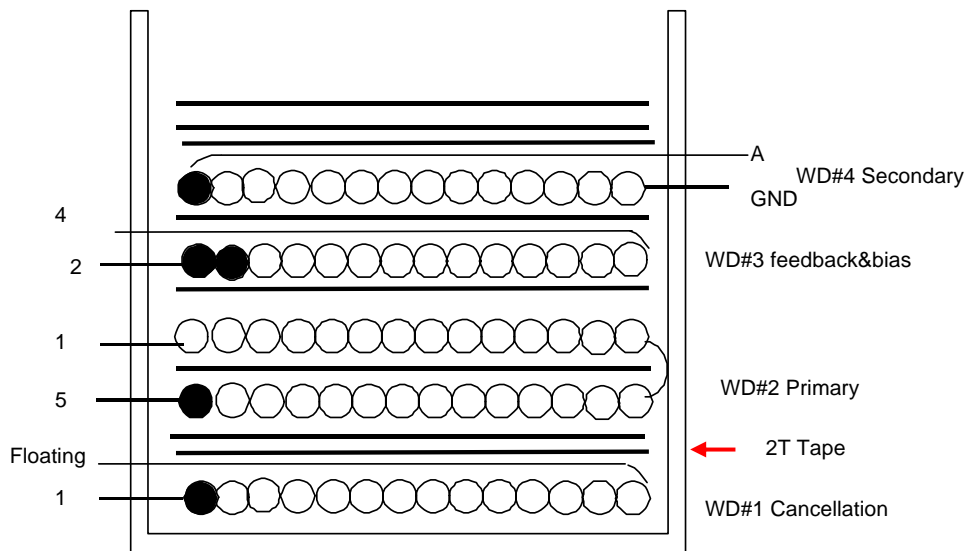




C. WINDING ORDER:

WINDING	START	FINISH	WIRE	WDG TURNS	Winding Direction
WD#1	PIN1	Floating	0.25 mm	25	left to right
WD#2	PIN5	PIN1	0.15 mm	80	Left to Right(2 layer)
WD#3	PIN2	PIN4	0.2mmx2	15	left to right
WD#4	A	GND	0.2mm TEX-T	16	left to right

D. WINDING CONSTRUCTION:



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9. BOM:

Item	Quantity	Part Reference	Value	Description
1	1	BD1	MB6S	600 V, 0.5 A, Bridge Rectifier, SMD, DFS, SOIC-4
2	1	C1	4.7 uF	4.7 uF, 400 V, Electrolytic, (8 x 11.5)
3	1	C2	47 nF	47 nF, 500 V, Ceramic, X7R, 1808
4	1	C3	1 uF	1 uF, 25 V, Ceramic, X7R, 0805
5	1	C4	22 uF	22 uF, 16 V, SMD1808
6	1	C5	1 nF	1 nF, 500 V, Ceramic, X7R, 1206
7	1	C6	1 uF	1 uF, 50 V, Ceramic, X7R, 1206
8	1	D1	DL4007	1000 V, 1 A, Rectifier, Glass Passivated, DO-213AA (MELF)
9	1	D2	SS110	100 V, 1 A, Schottky, DO-214AC
10	1	D3	LL4148	75 V, 0.15 A, Fast Switching, 4 ns, MELF
11	1	L1	2200 uH	2200 uH, 80 mA, 34.7 Ohm, Axial Ferrite Inductor
12	1	R1	330	330 R, 5%, 1/8 W, Metal Film, 0805
13	1	R2	390 k	390 k, 5%, 1/4 W, Metal Film, 1206
14	1	R3	6.2 k	6.2 k, 5%, 1/8 W, Metal Film, 0805
15	1	R4	7.9 k	7.9 k, 1%, 1/16 W, Metal Film, 0603
16	1	R5	37.4 k	37.4 k, 1%, 1/16 W, Metal Film, 0603
17	1	R6	15 k	15 k, 5%, 1/8 W, Metal Film, 0805
18	1	RF1	10R 1W	10 R, 1 W, Fusible/Flame Proof Wire Wound
19	1	T1	EPC13	Bobbin, EPC13, Horizontal, 10 pins
20	1	U1	LNK605D	LinkSwitch-II, LNK605, SMD-8B