

Demo Board Test Report for LD7591

--- 24V/500mA LED Power Supply

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III. EXECUTIVE SUMMARY

Office	
Model Name	LD7591-DemoBoard
Version	01
IC	LD7591(D/C:)

TEST	Result	Comments
3. Load Regulation	PASS	
4. Efficiency , PF Test	PASS	

1. Input Voltage & Frequency

The unit shall be capable of operating as a universal AC input power supply accepting AC inputs. The power supply shall operate between the following voltages (from 90V to 264V). The supply will be designed to operate for a Table 1.

	Minimum	Normal	Maximum
Input Voltage	90Vac	110Vac	264Vac
Frequency	47HZ	60HZ	63HZ

Table 1.

2. Output Loads

The line and load regulation for each of the outputs are shown in Table. 2.

Parameter	Output Voltage			Output Current	
	Minimum	Typical	Maximum	Minimum	Maximum
+24V		24V		0A	0.5A
Line Regulation	-5%	/	+5%	/	0.5A
Load Regulation	-5%	/	+5%	0A	0.5A

Table 2.

3. Load Regulation

Test Conditions:
Input: 90Vac/115Vac/230Vac/264Vac(60Hz)
Output: Electronic Load Setup:

CV mode (9V、12V、15V、18V、21V、24V)

Ambient Temperature : 25°C

CV mode:

Vin(V _{AC})	90Vac			
Vout(V _{DC})	15	18	21	24
Iout(mA)	466.6	486.6	486.8	486.9
Vin(V _{AC})	115Vac			
Vout(V _{DC})	15	18	21	24
Iout(mA)	486.3	486.5	486.5	486.7
Vin(V _{AC})	230Vac			
Vout(V _{DC})	15	18	21	24
Iout(mA)	486.5	486.5	486.6	486.8
Vin(V _{AC})	264Vac			
Vout(V _{DC})	15	18	21	24
Iout(mA)	486.4	486.6	486.7	486.8

Table 3

4. Efficiency and PF Test

The efficiency of power supply shall be measured throughout its specified operating input range and at output maximum load conditions. It should remain **80% minimum**. PF > 0.85 .

Test Condition:**Input: 90Vac/115Vac/230Vac/264Vac(60Hz)****Output: 24V/0.5A** (Electronic Load Setup:CV mode)**Ambient Temperature: 25°C**

	90V	115V	230V	264V
PF	0.995	0.990	0.944	0.923
Efficiency	84.73%	86.42%	87.08%	86.5%

Table 5 Efficiency, PF TEST.

T1: XFRM

1. Lp(4-3): 1130 uH±5%
2. Np/Ns/NVcc: 84/21/14
3. RM6

1	0.2mm*1(2-UEW) 56Ts PIN4 -> PINX		2 Layers
2	Tape 10 mm 3M#1350 1Ts		
3	0.15mm*1(2-UEW) 14Ts PIN1 -> PIN2		
4	銅箔 1Ts ->PIN2		
5	Tape 10mm 3M#1350 1Ts		
6	0.35mm*1 (三層絕緣絞線) 21Ts F1 -> F2		2 Layers
7	Tape 10mm 3M#1350 1Ts		
8	0.2mm*1(2-UEW) 28Ts PINX -> PIN3		1 Layers
9	Tape 10 mm 3M#1350 1Ts		
10	FINSHED		