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# Quality Engineering Test Report

**SERIES: LPP-100 100 WATTS SIGLE OUTPUT SWITCHING POWER SUPPLY**

**SAMPLE: A.LPP-100-3.3 3.3V / 20A    D.LPP-100-12 12V /8.5A    G.LPP-100-24 24V /4.2A**

**B.LPP-100-5 5V /20A    E.LPP-100-13.5 13.5V /7.5A    H.LPP-100-27 27V /3.8A**

**C.LPP-100-7.5 7.5V/13.5A    F.LPP-100-15 15V /6.7A    I.LPP-100-48 48V /2.1A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING O/P:FULL LOAD SPEC:85-264VAC	G: 62V-264VAC	P
2	LINE REGULATION	I/P:85-264VAC O/P:FULL LOAD SPEC: A: ±0.5% B: ±0.5% C: ±0.5% D: ±0.5% E: ±0.5% F: ±0.5% G: ±0.5% H: ±0.5% I: ±0.5%	A: 0.00% - 0.00% B: 0.00% - 0.00% C: 0.00% - 0.00% D: 0.00% - 0.049% E: 0.00% - 0.00% F: 0.00% - 0.00% G: 0.00% - 0.00% H: 0.00% - 0.00% I: 0.00% - 0.03%	P
3	LOAD REGULATION	I/P:230VAC O/P:0% LOAD TO FULL LOAD SPEC: A: ±1% B: ±1% C: ±1% D: ±0.5% E: ±0.5% F: ±0.5% G: ±0.5% H: ±0.5% I: ±0.5%	A: 0.18% - 0.00% B: 0.00% - 0.00% C: 0.00% - 0.00% D: -0.099% - 0.107% E: -0.04% - 0.04% F: 0.03% - 0.08% G: +0.00% - +0.00% H: 0.00% - 0.02% I: 0.012% - 0.02%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:85-264VAC O/P:0% LOAD TO FULL LOAD SPEC: A: ±2% B: ±2% C: ±2% D: ±2% E: ±2% F: ±2% G: ±1% H: ±1% I: ±1%	A: 0.00% ~ 0.36% B: 0.00% ~ 0.10% C: 0.00% ~ 0.08% D: -0.099% ~ 0.107% E: 0.00% ~ 0.13% F: -0.04% ~ 0.20% G: -0.02% ~ +0.00% H: 0.02% ~ 0.05% I: -0.012% ~ 0.012%	P
5	RIPPLE & NOISE	I/P:230VAC O/P: FULL LOAD SPEC: A:100mV B:100mV C:100mV D:100mV E:100mV F:100mV G:150mV H:150mV I:250mV	A: 33mV B: 29mV C: 18mV D: 12mV E: 15mV F: 15mV G: 21mV H: 19mV I: 24mV	P
6	AC INPUT CURRENT	I/P:230VAC O/P:FULL LOAD SPEC: 0.75A (3.3V:0.6A)	G:0.563A	P
7	MAX. INRUSH CURRENT	I/P:230VAC O/P:FULL LOAD SPEC: 40A	A:16.859A	P

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NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC O/P:MIN. LOAD SPEC: +10%~-5% A:3.1V~3.6V B:4.7V~5.5V C:7.12V~8.25V D:11.4V~13.2V E:12.8V~14.8V F:14.2V~16.5V G:22.8V~26.4V H:25.6V~29.7V I:45.6V~52.8V	A:3.04V~3.8V B:4.46V~5.8V C:6.40V~8.93V D:10.266V~13.9V E:10.73V~14.96V F:12.38V~17.56V G:19.37V~27.67V H:19.9V~30V I:39.7V~54.5V	P
9	SET UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:600ms	G:398mS	P
10	HOLD UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:20mS	G:37.2mS	P
11	EFFICIENCY	I/P:230VAC O/P: FULL LOAD SPEC: A:69% B:75% C:76% D:79% E:79% F:80% G:83% H:83% I:83%	A: 71.05% B: 77.8% C: 79.6% D: 81.3% E: 82.6% F: 82.7% G: 84.24% H: 85.5% I: 84.73%	P
12	OVER LOAD PROTECTION	I/P:230VAC O/P:TESTING SPEC:105%~150%	A: 125% B: 127% C: 123% D: 122.6% E: 118% F: 113% G: 138% H: 123% I: 138%	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC O/P: 0% LOAD SPEC:110%~135% A:3.63~4.45 V B:5.5~6.75V C:8.25~10.12V D:13.2~16.2V E:14.8~18.2V F:16.5~20.2V G:26.4~32.4V H:29.7~36.4V I:52.8~64.8V	A: 3.98V B: 6.08V C: 9.08V D: 15.5V E: 16.65V F: 19.14V G: 30.1V H: 33.9V I: 61.2V	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG-< 2mA N-FG-< 2mA	G: L-FG:0.86mA N-FG:0.86mA	P
15	INSULATION RESISTANCE	SPEC: O/P-FG 500VDC / 100M Ohms MIN. I/P-O/P 500VDC / 100M Ohms MIN. I/P-FG 500VDC / 100M Ohms MIN.	G: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P

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16	DIELECTRIC / WITHSTAND VOLTAGE	SPEC : I/P- O/P: 3000VAC/ 60 sec I/P - FG: 1500VAC/60 sec O/P - FG: 500VAC/60sec	G: I/P-O/P 6mA I/P-FG :5.2mA O/P- FG :8.18mA	P																																																
17	BURN-IN TEST	I/P: 230VAC O/P:FULL LOAD TA:25.8°C BURN-IN DURATION : 1.5 hrs	G : NON BREAK	P																																																
18	ENVIRONMENT TEST	1.LOW TEMPERATURE TEST I/P:230 VAC O/P:100% LOAD AMBIENT TEMPERATURE:-9.0°C	G : AFTER 3 hrs POWER ON OK	P																																																
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:47.8°C	G : AFTER 16 hrs NON BREAK																																																	
		3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST I/P:272VAC O/P:FULL LOAD AMBIENT TEMPERATURE : 25°C AMBIENT HUMIDITY : 95%	G : AFTER15 hrs POWER ON/OFF NO BREAK																																																	
19	TEMPERATURE RISE TEST Trise OF PARTS	G: I/P :230VAC AFTER 1.5 hrs BURN-IN O/P :FULL LOAD TA:25.8°C		P																																																
		<table border="1"> <thead> <tr> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>Trise</th> </tr> </thead> <tbody> <tr> <td>BD1</td> <td>BRIDGE DIODE</td> <td>74.7°C</td> <td>48.9°C</td> </tr> <tr> <td>Q2</td> <td>MAIN TRANSISTOR</td> <td>67.3°C</td> <td>41.5°C</td> </tr> <tr> <td>Q1</td> <td>PFC TRANSISTOR</td> <td>67.3°C</td> <td>41.5°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER COIL</td> <td>50.9°C</td> <td>25.1°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER CORE</td> <td>57.2°C</td> <td>31.2°C</td> </tr> <tr> <td>D20</td> <td>O/P DIODE</td> <td>60.7°C</td> <td>34.9°C</td> </tr> <tr> <td>C52</td> <td>O/P FILTER CAPACITOR</td> <td>62.3°C</td> <td>36.5°C</td> </tr> <tr> <td>L2</td> <td>O/P CHOCK</td> <td>53.2°C</td> <td>27.4°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>51.4°C</td> <td>25.6°C</td> </tr> <tr> <td>LF1</td> <td>LINE FILTER COIL</td> <td>47.8°C</td> <td>22°C</td> </tr> <tr> <td>D7</td> <td>PFC DIODE</td> <td>74.6°C</td> <td>48.8°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	Trise	BD1	BRIDGE DIODE	74.7°C	48.9°C	Q2	MAIN TRANSISTOR	67.3°C	41.5°C	Q1	PFC TRANSISTOR	67.3°C	41.5°C	T1	MAIN TRANSFORMER COIL	50.9°C	25.1°C	T1	MAIN TRANSFORMER CORE	57.2°C	31.2°C	D20	O/P DIODE	60.7°C	34.9°C	C52	O/P FILTER CAPACITOR	62.3°C	36.5°C	L2	O/P CHOCK	53.2°C	27.4°C	C5	I/P FILTER CAPACITOR	51.4°C	25.6°C	LF1	LINE FILTER COIL	47.8°C	22°C	D7	PFC DIODE	74.6°C	48.8°C		
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20	LIFE CYCLE	SUPPOSE C52 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25.8°C Tc52:62.3°C Life:75055.6hrs I/P:230VAC O/P:FULL LOAD Ta:47.8°C Tc52:80.8°C Life:16895.8hrs																																																		
21	CRITICAL COMPONENT RECORD ( FOR QC INSPECTION REFERENCE ONLY )	G : FUSE : 4A/250V BRIDGE DIODE : D2SB60 LINE FILTER :LF101 TRANSFOMER :TF-682 OUTPUT DIODE :1N5406 OUTPUT CAPACITOR :NIPPON 330uF/35V 105°C LXJ INPUT CAPACITOR : 100uF/400V,85°C USC RUBYCON P.C.B :LPP-100																																																		

<b>DATE</b>	<b>SAMPLE</b>	<b>TEST RESULT</b>	<b>TEST</b>	<b>APPROVAL</b>
20000624	R.D. <b>SAMPLE A0009A22</b> LPP-100-3.3,5,7.5 ,12,13.5,15,24,27,48	<b>PASS</b>	VINCENT	Max Lin
20000920	PRDUCTION <b>SAMPLE A0009A22</b>	<b>PASS</b>	VINCENT	Max Lin
20010222	PRDUCTION <b>SAMPLE A102B19 24V</b>	<b>PASS</b>	SAM	Max Lin
20010407	PRDUCTION <b>SAMPLE A104A08A 12V</b>	<b>PASS</b>	VINCENT	Max Lin
20020605	PRDUCTION <b>SAMPLE A205B23 24V</b>	<b>PASS</b>	VINCENT	Max Lin

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