

Quality Engineering Test Report

SERIES: PD-110 103W AC-DC DUAL OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A : PD-110A V1: 5V / 5A B :PD-110B V1: 5V / 5A

V2: 12V / 6.5A V2: 24V / 3.5A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:100~264VAC O/P:FULL LOAD	A:81VAC~267VAC	P
2	LINE REGULATION	I/P:100~264VAC SPEC: O/P:FULL LOAD A: V1: $\pm 1\%$ V2: $\pm 2\%$ B: V1: $\pm 1\%$ V2: $\pm 2\%$	A: V1: 0% ~ 0% V2: 0.05% ~ +0.3% B: V1: 0% ~ 0% V2: -0.05% ~ +0.20%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A: V1: $\pm 1\%$ V2: $\pm 5\%$ B: V1: $\pm 1\%$ V2: $\pm 5\%$	A: V1: -0.6% ~ +0.49% V2: -0.05% ~ +0.26% B: V1: -0.12% ~ +0.12% V2: -1.40% ~ +0.94%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:100~264VAC SPEC: O/P:20%TO FULL LOAD A: V1: $\pm 2\%$ V2: $\pm 6\%$ B: V1: $\pm 2\%$ V2: $\pm 6\%$	A: V1: 0.118% ~ +1.1% V2: -2.7% ~ +5.6% B: V1: 1.50% ~ +1.74% V2: 0% ~ +6.30%	P
5	RIPPLE & NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A: V1: 100mV V2: 150mV B: V1: 100mV V2: 200mV	A: V1: 3mV V2: 8mV B: V1: 4mV V2: 7mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC:1.5A O/P:FULL LOAD	A:1.159A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC:50A O/P: FULL LOAD	A:41A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC:CH1:-5%~+10% O/P:MIN. LOAD	A: 4.5V~5.87V B: 4.48V~5.V	P
9	SET UP TIME	I/P:230VAC SPEC:1200mS O/P:FULL LOAD	A: 424mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	A: 109mS	P
11	EFFICIENCY	I/P:230VAC SPEC: O/P:FULL LOAD A:75% B:78%	A:75.8% B:80.7%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC:105%~135% O/P:TESTING	A:125% B:121%	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC SPEC: CH1:5.75~6.75V O/P:TESTING	A:6.26V B:6.3V	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG-<1mA N-FG-<1mA	A: L-FG:0.4mA N-FG:0.42mA	P
15	GROUNDING CONTINUITY	SPEC: FG--CHASSIS<0.1Ohms/2min	A ----mOhms	P
16	INSULATION RESISTANCE	SPEC: I/P-O/P: 500VDC/100MOhms MIN. I/P-FG: 500VDC/100MOhms MIN. O/P-FG: 500VDC/100MOhms MIN.	A: O/P-FG >100MOhms I/P-O/P >100MOhms I/P-FG >100MOhms	P
17	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3KVAC/ 1 min. (10mA CUT-OFF) I/P - FG: 1.5KVAC/ 1 min. (10mA CUT-OFF) O/P - FG: 0.5KVAC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P :0.329mA I/P-FG :0.09mA O/P-FG :0.029mA	P
18	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:26.4°C BURN-IN DURATION : 2 hrs	A:NON BREAK	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																																																												
19	ENVIRONMENT TEST	1.LOW TEMPERATURE TEST I/P:230 VAC O/P:FULL LOAD AMBIENT TEMPERATURE:-9.8°C	A: AFTER 2 hrs POWER ON OK	P																																																												
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:45°C	A: AFTER 12 hrs NON BREAK																																																													
		3.High Humidity, High Voltage After On/Off Test I/P:272VAC O/P:FULL LOAD AMBIENT TEMPERATURE:25°C AMBIENT HUMIDITY:95%	A : AFTER 12 hrs POWER ON OK																																																													
20	TEMPERATURE RISE TEST T rise OF PARTS	<p>A: I/P :230VAC O/P :FULL LOAD Ta:26.4°C</p> <p>AFTER 2 hr BURN-IN WITH COOLING 17CFM FAN</p> <table border="1"> <thead> <tr> <th></th> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <tr> <td></td> <td>BD1</td> <td>BRIDGE DIODE</td> <td>51.5°C</td> <td>25.1°C</td> </tr> <tr> <td></td> <td>Q1</td> <td>MAIN TRANSISTOR</td> <td>58.6°C</td> <td>32.2°C</td> </tr> <tr> <td></td> <td>T1</td> <td>MAIN TRANSFORMER COIL</td> <td>76.1°C</td> <td>49.7°C</td> </tr> <tr> <td></td> <td>T1</td> <td>MAIN TRANSFORMER CORE</td> <td>61.8°C</td> <td>35.4°C</td> </tr> <tr> <td></td> <td>C24</td> <td>O/P FILTER CAPACITOR</td> <td>46.6°C</td> <td>20.2°C</td> </tr> <tr> <td></td> <td>LF1</td> <td>LINE FILTER TRANSFORMER</td> <td>50.8°C</td> <td>24.4°C</td> </tr> <tr> <td></td> <td>C6</td> <td>I/P FILTER CAPACITOR</td> <td>54.5°C</td> <td>28.1°C</td> </tr> <tr> <td></td> <td>D5</td> <td>O/P DIODE</td> <td>67.5°C</td> <td>41.1°C</td> </tr> <tr> <td></td> <td>D4</td> <td>O/P DIODE</td> <td>75.0°C</td> <td>48.6°C</td> </tr> <tr> <td></td> <td>D1</td> <td>CLAMP DIODE</td> <td>76.6°C</td> <td>50.2°C</td> </tr> <tr> <td></td> <td>R5</td> <td>SUNBBER RESISTANCE</td> <td>85.0°C</td> <td>58.6°C</td> </tr> </tbody> </table>		POSITION	P/N	TEMP	T rise		BD1	BRIDGE DIODE	51.5°C	25.1°C		Q1	MAIN TRANSISTOR	58.6°C	32.2°C		T1	MAIN TRANSFORMER COIL	76.1°C	49.7°C		T1	MAIN TRANSFORMER CORE	61.8°C	35.4°C		C24	O/P FILTER CAPACITOR	46.6°C	20.2°C		LF1	LINE FILTER TRANSFORMER	50.8°C	24.4°C		C6	I/P FILTER CAPACITOR	54.5°C	28.1°C		D5	O/P DIODE	67.5°C	41.1°C		D4	O/P DIODE	75.0°C	48.6°C		D1	CLAMP DIODE	76.6°C	50.2°C		R5	SUNBBER RESISTANCE	85.0°C	58.6°C		P
	POSITION	P/N	TEMP	T rise																																																												
	BD1	BRIDGE DIODE	51.5°C	25.1°C																																																												
	Q1	MAIN TRANSISTOR	58.6°C	32.2°C																																																												
	T1	MAIN TRANSFORMER COIL	76.1°C	49.7°C																																																												
	T1	MAIN TRANSFORMER CORE	61.8°C	35.4°C																																																												
	C24	O/P FILTER CAPACITOR	46.6°C	20.2°C																																																												
	LF1	LINE FILTER TRANSFORMER	50.8°C	24.4°C																																																												
	C6	I/P FILTER CAPACITOR	54.5°C	28.1°C																																																												
	D5	O/P DIODE	67.5°C	41.1°C																																																												
	D4	O/P DIODE	75.0°C	48.6°C																																																												
	D1	CLAMP DIODE	76.6°C	50.2°C																																																												
	R5	SUNBBER RESISTANCE	85.0°C	58.6°C																																																												
21	LIFE CYCLE	<p>A: SUPPOSE C24IS THE MOST CRITICAL COMPONENT</p> <p>I/P:230VAC O/P:FULL LOAD Ta:25°C Tc24:45.2°C Life: 366089 hrs</p> <p>I/P:230VAC O/P:FULL LOAD Ta:50°C Tc24:61.7°C Life: 116650hrs</p>		P																																																												
22	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	<p>A:: FUSE :4AL/250V UL</p> <p>BRIDGE DIODE :D3SB60</p> <p>LINE FILTER :TF096-R2 EE-25</p> <p>TRANSFOMER TF574</p> <p>POWER SWITCHER :K2607TO-3P</p> <p>OUTPUT DIODE :30GWJ2C TO-3P</p> <p>OUTPUT CAPACITOR :ELNA 3300uF/10V RJH 105°C</p> <p>INPUT CAPACITOR :HITACHI 150uF/400V HP-3 85°C</p> <p>P.C.B PQ-100 CEM-1 2 OZ SS</p>																																																														
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																																																												
19990127	RD SAMPLE PD110	PASS	H.C.LIOU	Max Lin																																																												
19990324	PRODUCTION SAMPLE 9903B17 PD110-A,B	PASS	H.C.LIOU	Max Lin																																																												
20000619	PRODUCTION SAMPLE A006B27 PD110A	PASS	VINCENT	Max Lin																																																												