

# Quality Engineering Test Report

**SERIES: PS-25 25W AC-DC SIGLE OUTPUT SWITCHING POWER SUPPLY OPEN FRAME TYPE**

<b>SAMPLE:</b>	A.PS-25-3.3	3.3V / 5A	D.PS-25-12	12V /2.1A	G.PS-25-24	24V /1A
	B.PS-25-5	5V /5A	E.PS-25-13.5	13.5V /1.9A	H.PS-25-27	27V /0.9A
	C.PS-25-7.5	7.5V /3.3A	F.PS-25-15	15V /1.7A	I.PS-25-48	48V /0.5A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:85~264VAC O/P:FULL LOAD	A:74VAC~267VAC	P
2	LINE REGULATION	I/P:85~264VAC SPEC: A: ±0.5% O/P:FULL LOAD B: ±0.5% C: ±0.5% D: ±0.3% E: ±0.3% F: ±0.3% G: ±0.2% H: ±0.2% I: ±0.2%	A: 0% ~ 0.183% B: 0% ~ 0.1% C: 0% ~ 0% D: 0% ~ 0.05% E: -0.04% ~ 0% F: 0% ~ 0% G: -0.03% ~ 0% H: 0% ~ 0% I: -0.03% ~ 0.01%	P
3	LOAD REGULATION	I/P:230VAC SPEC: A: ±2.5% O/P: B: ±2% MIN. TO FULL LOAD C: ±2% D: ±1% E: ±1% F: ±1% G: ±0.5% H: ±0.5% I: ±0.5%	A: -0.36% ~ 0.54% B: -0.24% ~ 0.12% C: -0.158% ~ 0.238% D: 0% ~ 0.05% E: -0.04% ~ 0.08% F: 0% ~ 0.04% G: -0.03% ~ 0% H: -0.022% ~ 0.022% I: -0% ~ 0.01%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:85~264VAC SPEC: A: ±3% O/P: B: ±2% MIN. TO FULL LOAD C: ±2% D: ±2% E: ±2% E: ±2% E: ±2%	A: -0.96% ~ 0% B: -0.25% ~ 0.12% C: -0.4% ~ 0.09% D: -0.05% ~ 0.06% E: -0.06% ~ +0.10% F: -0.04% ~ 0.04% G: -0.06% ~ 0.08% H: -0.069% ~ 0.25% I: -0.04% ~ 0.1%	P
5	RIPPLE & NOISE	I/P:230VAC SPEC: A:80mV O/P: FULL LOAD B:80mV C:80mV D:100mV E:100mV F:100mV G:240mV H:240mV I:350mV	A: 11mV B: 12mV C: 7mV D: 11mV E: 10mV F: 11mV G: 14mV H: 8mV I: 65mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC: 0.4A O/P:FULL LOAD	A:0.222A	P
7	MAX. INRUSH CURRENT	I/P:230VAC SPEC: 40A O/P:FULL LOAD	A:31.781A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC:FIXED O/P:MIN. LOAD	A:3.325V B:5.08V C:7.593V D:12.06V E:13.512V F:14.96V G:24.03V H:27.237V I:47.98V	P

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9	SET UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:200ms	A:94.38mS	P
10	HOLD UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:80mS	A:202.969mS	P
11	EFFICIENCY	I/P:230VAC O/P: FULL LOAD SPEC: A: 66% B: 74% C: 76% D: 78% E: 78% F: 78% G: 79% H: 79% I : 79%	A: 68.59% B: 75.87% C: 78.51% D: 79.70% E: 79.1% F: 81.19% G: 83.11% H: 80.2% I : 80.58%	P
12	OVER LOAD PROTECTION	I/P:230VAC O/P: TESTING SPEC: ABOVE 105% FOLDBACK CURRENT SHUTDOWN AUTO RECOVERY	A: 205% B: 180% C: 187% D: 209% E: 211% F: 187% G: 325% H: 322% I : 320%	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC O/P:TESTING SPEC:115~135%	A: 127.3% B: 124% C: 118.6% D: 118% E: 128% F: 116% G: 119% H: 135% I: 119%	P
14	OVER TEMPERATURE PROTECTION & FAN ON/OFF TEST	I/P:230VAC O/P:FULL LOAD SPEC: U1 Tj 135°C TYPICAL	B:OTP:121°C	P
15	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<0.5mA N-FG--<0.5mA	A: L-FG:0.25 mA N-FG:0.24mA	P
16	INSULATION RESISTANCE	SPEC: I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms	P
17	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3000VAC/ 1 sec(10mA CUT-OFF) I/P - FG: 1500VAC/ 1 sec(10mA CUT-OFF)	A: I/P-O/P :0.881mA I/P-FG :1.531mA	P
18	BURN-IN TEST	I/P: 230VAC O/P:FULL LOAD TA:25.3°C BURN-IN DURATION : 1 hrs	B:NON BREAK	P
19	ENVIRONMENT TEST (SAMPLE B:)	1.LOW TEMPERATURE TEST I/P:80 VAC O/P:FULL LOAD AMBIENT TEMPERATURE:-9.0°C	AFTER 1.5 hrs POWER ON OK	P
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:55.1°C	AFTER 40 hrs NON BREAK	
		3.ACCELERATED LIFE TEST I/P:265VAC O/P:FULL LOAD POWER ON :3 min POWER OFF :5 sec AMBIENT TEMPERATURE:85°C AMBIENT HUMIDITY:95%	AFTER 16 hrs NON BREAK	

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20	TEMPERATURE RISE TESTT rise OF PARTS	I/P :230VAC                      AFTER 1 hr BURN-IN O/P :FULL LOAD                TA:25.3°C <table border="1"> <thead> <tr> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <tr> <td>BD1</td> <td>BRIDGE DIODE</td> <td>54.3°C</td> <td>29.0°C</td> </tr> <tr> <td>U1</td> <td>MAIN TRANSISTOR</td> <td>51.2°C</td> <td>25.9°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>62.6°C</td> <td>37.3°C</td> </tr> <tr> <td>D7</td> <td>O/P DIODE</td> <td>67.9°C</td> <td>42.6°C</td> </tr> <tr> <td>C17</td> <td>O/P FILTER CAPACITOR</td> <td>54.5°C</td> <td>29.2°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>38.7°C</td> <td>13.4°C</td> </tr> <tr> <td>D5</td> <td>CLAMP DIODE</td> <td>53.2°C</td> <td>27.9°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	BD1	BRIDGE DIODE	54.3°C	29.0°C	U1	MAIN TRANSISTOR	51.2°C	25.9°C	T1	MAIN TRANSFORMER	62.6°C	37.3°C	D7	O/P DIODE	67.9°C	42.6°C	C17	O/P FILTER CAPACITOR	54.5°C	29.2°C	C5	I/P FILTER CAPACITOR	38.7°C	13.4°C	D5	CLAMP DIODE	53.2°C	27.9°C		P
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21	LIFE CYCLE	B: SUPPOSE C17 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc17:54°C Life: 169368 hrs I/P:230VAC O/P:FULL LOAD Ta:50°C Tc17:74°C Life: 42342 hrs		P																																
22	CRITICAL COMPONENT RECORD ( FOR QC INSPECTION REFERENCE ONLY )	B: FUSE : 2.5A/250VAC CQ GTE BRIDGE DIODE : LT KBP208G(GLASS) LINE FILTER : TF-416 ET-20V TRANSFOMER : SF TF-433 EI-28 POWER SWITCHER : PHIL TOP223Y OUTPUT DIODE : C82-004 TO-220 OUTPUT CAPACITOR : N.C.C 2200uF/10V , 105°C, RJH INPUT CAPACITOR : HITACHI 82uF/400V,85°C HP3 P.C.B : PS-25,CEM-1 2 OZ 61mm x 107mm																																		
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																																
19980417	PS-25	PASS	H.C.LIOU	Max Lin																																
20010226	PS-25-3.3,7.5,13.5,27	PASS	SAM	Max Lin																																