

Quality Engineering Test Report

SERIES:PD25 25W AC-DC DUAL OUTPUT OPEN FRAME SWITCHING POWER SUPPLY
SAMPLE: A.PD-25AV1:+5V /2.1A V2:+12V / 1.2A C.PD-2505 V1:+5V / 2.5A V2:-5V / 2.5A E.PD-2515 V1:+15V / 0.8A V2:-15V / 0.8A
B.PD-25BV1:+5V /1.2A V2:+24V /0.8A D.PD-2512 V1:+12V / 1A V2:-12V /1A F.PD-2503 V1:+5V / 3A V2:+3.3 / 3A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:85~264VAC O/P:FULL LOAD	F:59.1VAC~264VAC	P
2	LINE REGULATION	I/P:85~264VAC SPEC: O/P:FULL LOAD A :V1 :±0.5% V2 :±2% B :V1 :±0.5% V2 :±2% C :V1 :±1% V2 :±1% D :V1 :±0.5% V2 :±0.5% E :V1 :±0.5% V2 :±0.5% F :V1 :±2% V2 :±1%	A: V1: -0.1%~+0% V2: -0.05%~+1.1% B: V1: -0%~+0% V2: -0.02%~+0.94% C: V1: -0.24%~+0% V2: -0%~+0% D: V1: -0%~+0.1% V2: -0.1%~+0% E: V1: -0.04%~+0% V2: -0%~+0% F: V1: -0.51%~+0% V2: -0%~+0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A : V1 : ±1% V2 : ±4% B : V1 : ±1% V2 : ±4% C : V1 : ±4% V2 : ±4% D : V1 : ±3% V2 : ±3% E : V1 : ±3% V2 : ±3% F : V1 : ±4% V2 : ±1%	A: V1: -0.1%~+0.1% V2: -0%~+0.2% B: V1: -0.12%~+0% V2: -0%~+0.23% C: V1: -0.62%~+0% V2: -0.12%~+0.62% D: V1: -0.1%~+0% V2: -0.1%~+0.2% E: V1: -0.1%~+0.05% V2: -0.1%~+0.12% F: V1: -0.24%~+0.51% V2: -0.36%~+0.36%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:230VAC SPEC: O/P:MIN. TO FULL LOAD A : V1 : ±2% V2 : ±6% B : V1 : ±2% V2 : ±6% C : V1 : ±6% V2 : ±6% D : V1 : ±4% V2 : ±4% E : V1 : ±4% V2 : ±4% F : V1 : -8%~+5% V2 : ±2%	A: V1: -0%~+0.24% V2: -4.79%~+5.67% B: V1: -0.12%~+0.12% V2: -2.43%~+4.0% C: V1: -4.66%~+4.3% V2: -4.39%~+4.8% D: V1: -2.29%~+2.08% V2: -2.19%~+2.23% E: V1: -2.83%~+0.08% V2: -2.6%~+0.37% F: V1: -6.38%~+1.86% V2: +1.69%~+2.45%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: O/P:FULL LOAD A :V1 :50mV V2 :150mV B :V1 :50mV V2 :200mV C :V1 :50mV V2 :50mV D :V1 :50mV V2 :50mV E :V1 :50mV V2 :50mV F :V1 :50mV V2 :50mV	A: V1: 16mV V2: 25mV B: V1: 7mV V2: 20mV C: V1: 7mV V2: 5mV D: V1: 6mV V2: 6mV E: V1: 6mV V2: 5mV F: V1: 6mV V2: 23mV	P

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6	AC INPUT CURRENT	I/P:230VAC O/P:FULL LOAD SPEC:0.4A	F:0.312A	P
7	MAX. INRUSH CURREN	I/P:230VAC O/P: FULL LOAD SPEC:40A	F:33.273A	P
8	SET UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:250ms	F:132mS	P
9	HOLD UP TIME	I/P:230VAC O/P:FULL LOAD SPEC:50mS	F:129mS	P
10	EFFICIENCY	I/P:230VAC O/P:FULL LOAD SPEC: A:71% B:77% C:73% D:74% E:75% F:72%	A:72.12% B:78.66% C:74.84% D:75.77% E:76.60% F:73.18%	P
11	OVER LOAD PROTECTION	I/P:230VAC O/P:TESTING SPEC:ABOVE 105%	A:246% B:269% C:239% D:286.5% E:285% F:230%	P
12	OVER VOLTAGE PROTECTION	I/P:230VAC O/P:FULL LOAD SPEC: V1:115%~135% V2:115%~135%	A : V1: 123% V2: 128% B : V1: 124% V2: 123% C : V1: 124.4% V2: 126% D : V1: 121% V2: 129% E : V1: 124.3% V2: 130.7% F : V1: 124% V2: 130%	P
13	OVER TEMPERATURE PROTECTION & FAN ON/OFF TEST	I/P:230VAC O/P:FULL LOAD SPEC: U1 Tj 135°C TYPICALLY POWER SHUTDOWN	A: OTP:115°C	P
14	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<0.5mA N-FG--<0.5mA	A: L-FG:0.25mA N-FG:0.24mA	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.	A: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms	P
16	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 3000VAC/ 1 sec (10mA CUT-OFF) I/P - FG: 1500VAC/ 1 sec (10mA CUT-OFF) O/P - FG: 500VAC/ 1 sec (10mA CUT-OFF)	A: I/P-O/P :1.8mA I/P-FG :2.8mA	P
17	BURN-IN TEST	I/P: 230VAC O/P:FULL LOAD TA:23.6°C BURN-IN DURATION : 1 hrs	NON BREAK	P

18	ENVIRONMENT TEST (SAMPLE A:)	1.LOW TEMPERATURE TEST I/P:80 VAC O/P:FULL LOAD AMBIENT TEMPERATURE:-8.7°C	AFTER 1.33 hrs POWER ON OK	P																																
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:51.2°C	AFTER 14 hrs NON BREAK																																	
		3.ACCELERATED LIFE TEST I/P:267VAC O/P:FULL LOAD POWER ON :3 min POWER OFF :5 sec AMBIENT TEMPERATURE:85°C AMBIENT HUMIDITY:95%	AFTER 4.5 hrs NON BREAK																																	
19	TEMPERATURE RISE TEST T rise OF PARTS	<p style="text-align: center;">A: I/P :230VAC O/P :FULL LOAD AFTER 1 hr BURN-IN TA:23.6°C</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <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>49.0°C</td> <td>25.4°C</td> </tr> <tr> <td>U1</td> <td>MAIN TRANSISTOR</td> <td>55.2°C</td> <td>31.6°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>61.9°C</td> <td>38.3°C</td> </tr> <tr> <td>D7</td> <td>O/P DIODE</td> <td>63.8°C</td> <td>40.2°C</td> </tr> <tr> <td>C14</td> <td>O/P FILTER CAPACITOR</td> <td>43.4°C</td> <td>19.8°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>36.1°C</td> <td>12.5°C</td> </tr> <tr> <td>D5</td> <td>CLAMP DIODE</td> <td>52.4°C</td> <td>28.8°C</td> </tr> </tbody> </table>		POSITION	P/N	TEMP	T rise	BD1	BRIDGE DIODE	49.0°C	25.4°C	U1	MAIN TRANSISTOR	55.2°C	31.6°C	T1	MAIN TRANSFORMER	61.9°C	38.3°C	D7	O/P DIODE	63.8°C	40.2°C	C14	O/P FILTER CAPACITOR	43.4°C	19.8°C	C5	I/P FILTER CAPACITOR	36.1°C	12.5°C	D5	CLAMP DIODE	52.4°C	28.8°C	P
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20	LIFE CYCLE	A: SUPPOSE C14 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:23.6°C Tc14:43.4°C Life: 424924 hrs I/P:230VAC O/P:FULL LOAD Ta:51.2°C Tc14:65.4°C Life: 92479 hrs		P																																
21	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	A: FUSE : T2.5AL/250VAC UL BRIDGE DIODE : KBP208G 2A/800V GLASS LINE FILTER : LF TF-416 ET-20V TRANSFORMER : MT TF-426 EI-28 POWER SWITCHER : PHIL TOP-223Y OUTPUT DIODE : C82-004 TO-220 OUTPUT CAPACITOR : 1000uF/25V ,LL 105°C, 5Khrs INPUT CAPACITOR : HITACHI 82uF/400V,85°C HP3 P.C.B : PD-25-R1,CEM-3 2 OZ SS																																		
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																																
980417	PD-25	PASS	H.C.LIOU	Max Lin																																
980930	PD-2503	PASS	H.C.LIOU	Max Lin																																