

MODEL:PSP-600-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 240 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25℃	V1: 62 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 10V~ 13.2 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	9.11 V~ 13.72 V/ 230 VAC 9.11 V~ 13.72 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1 %~ -1 % (Max)	I/P: 155 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25℃	V1: 0.2 %~ -0.2 %	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 155VAC ~ 264 VAC O/P:FULL LOAD Ta:25℃	V1: 0.05 %~ -0.05 %	P
5	LOAD REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25℃	V1: 0.15 %~ -0.15 %	P
6	SET UP TIME	230VAC: 1500 ms (Max) 115 VAC: 1500 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 1022 ms 115VAC/ 1022 ms	P
7	RISE TIME	230VAC: 50 ms (Max) 115VAC: 50 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 2 ms 115VAC/ 2 ms	P
8	HOLD UP TIME	230VAC: 16 ms (TYP) 115VAC: 16 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 21 ms 115VAC/ 21 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST: <5 %	P
10	DYNAMIC LOAD	V1: 1200 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25℃	1001 mVp-p	P

INPUT FUNCTION TEST

N O	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25℃	59 V~264V	P
			I/P: LOW-LINE-3V= 85 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE OSC	I/P: 88 VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	P
3	POWER FACTOR	0.95 / 230 VAC(TYP) 0.98 / 115 VAC (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	PF= 0.96 / 230 VAC PF= 0.99 / 115 VAC	P
4	EFFICIENCY	84% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	85.5 %	P
5	INPUT CURRENT	230V/ 4.1 A (TYP) 115V/ 8.2 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I = 3.3 A/ 230 VAC I = 6.7 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 50 A (TYP) 115V/ 25 A (TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I = 36 A/ 230 VAC I = 18 A/ 115 VAC	P
7	LEAKAGE CURRENT	< 1.5 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25℃	L-FG: 1 mA N-FG: 0.96 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105%~ 135 %	I/P: 230 VAC I/P: 115 VAC O/P: TESTING Ta:25℃	121 %/ 230 VAC 121 %/ 115 VAC Constant current limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 13.8 V~ 16.2 V	I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25℃	15.55 V/ 230 VAC 15.55 V/ 115 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW1: 85± 5℃ O.T.P TSW2: 80± 5℃ O.T.P NO DAMAGE	I/P: 230 VAC O/P: FULL LOAD	O.T.P. Active Shut down o/p voltage , recovers automatically after temperature goes down , than re-power on to recover	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P: FULL LOAD Ta:25℃	NO DAMAGE Foldback Current Limiting	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	FAN SPEED CONTROL	-----	I/P: 230 VAC O/P: FULL LOAD Ta:25℃	Fan Voltage= 11.06 V	P
2	REMOTE CONTROL	Rc+ / Rc- SHORT POWER ON OPEN POWER OFF	I/P: 230 VAC O/P: FULL LOAD Ta:25℃	SHORT POWER ON OPEN POWER OFF	P
3	POWER OK	POWER ON : 3.3V~6V POWER OFF : 0V~2V	I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta:25℃	POWER ON : 4.95 V POWER OFF : 0 V	P
4	CURRENT SHARING	PSU1-PSU2 < 10%	I/P: 230 VAC O/P: FULL/50% LOAD Ta:25℃	O/P: 100% PSU1: 700 W PSU2: 746 W O/P: 50% PSU1: 342 W PSU2: 372 W	P
5	REMOTE SENSE	>0.3V	I/P: 230 VAC O/P: FULL LOAD Ta:25℃	>0.3V	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																																
1	TEMPERATURE RISE TEST	MODEL : PSP-600-24 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 230VAC O/P: FULL LOAD Ta= 33.6 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230VAC O/P: FULL LOAD Ta= 52.6 °C <table><thead><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 33.6 °C</th><th>HIGH AMBIENT Ta= 52.6 °C</th></tr></thead><tbody><tr><td>1</td><td>U1</td><td>ML480</td><td>49.1°C</td><td>69.0°C</td></tr><tr><td>2</td><td>C37</td><td>220U/25V NCC 105°C KY</td><td>43.7°C</td><td>65.1°C</td></tr><tr><td>3</td><td>C6</td><td>150U/400V RUB 85°C USC</td><td>35.1°C</td><td>54.9°C</td></tr><tr><td>4</td><td>D1</td><td>BYV10-600 10A/600V PH</td><td>43.0°C</td><td>63.2°C</td></tr><tr><td>5</td><td>Q1</td><td>16N50C3 16A/500V INF</td><td>47.5°C</td><td>68.7°C</td></tr><tr><td>6</td><td>L1</td><td>TR-498</td><td>49.3°C</td><td>70.9°C</td></tr><tr><td>7</td><td>D9</td><td>BYM26E 2.3A/1KV</td><td>44.1°C</td><td>64.1°C</td></tr><tr><td>8</td><td>BD1</td><td>D15XB60 15A/600V SHI</td><td>46.1°C</td><td>75.7°C</td></tr><tr><td>9</td><td>TRC1</td><td>BTA16-600 16A ST</td><td>59.7°C</td><td>80.8°C</td></tr><tr><td>10</td><td>LF2</td><td>TR-436</td><td>39.6°C</td><td>59.9°C</td></tr><tr><td>11</td><td>Q52</td><td>K2850 6A/900V FUJI</td><td>68.2°C</td><td>93.9°C</td></tr><tr><td>12</td><td>Q53</td><td>K2850 6A/900V FUJI</td><td>69.1°C</td><td>98.7°C</td></tr><tr><td>13</td><td>D72</td><td>D9202 20A/200V FUJI</td><td>58.5°C</td><td>78.9°C</td></tr><tr><td>14</td><td>T1 COIL</td><td>TF-1150</td><td>46.0°C</td><td>66.7°C</td></tr><tr><td>15</td><td>C208</td><td>680U/35V NIC 105°C KY</td><td>35.3°C</td><td>55.6°C</td></tr></tbody></table>			NO	Position	P/N	ROOM AMBIENT Ta= 33.6 °C	HIGH AMBIENT Ta= 52.6 °C	1	U1	ML480	49.1°C	69.0°C	2	C37	220U/25V NCC 105°C KY	43.7°C	65.1°C	3	C6	150U/400V RUB 85°C USC	35.1°C	54.9°C	4	D1	BYV10-600 10A/600V PH	43.0°C	63.2°C	5	Q1	16N50C3 16A/500V INF	47.5°C	68.7°C	6	L1	TR-498	49.3°C	70.9°C	7	D9	BYM26E 2.3A/1KV	44.1°C	64.1°C	8	BD1	D15XB60 15A/600V SHI	46.1°C	75.7°C	9	TRC1	BTA16-600 16A ST	59.7°C	80.8°C	10	LF2	TR-436	39.6°C	59.9°C	11	Q52	K2850 6A/900V FUJI	68.2°C	93.9°C	12	Q53	K2850 6A/900V FUJI	69.1°C	98.7°C	13	D72	D9202 20A/200V FUJI	58.5°C	78.9°C	14	T1 COIL	TF-1150	46.0°C	66.7°C	15	C208	680U/35V NIC 105°C KY	35.3°C	55.6°C	P
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 111 % LOAD Ta:25°C	TEST : OK	P																																																																																
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: 100 % LOAD Ta= -20 °C	TEST : OK	P																																																																																
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 45 °C NO DAMAGE	I/P: 272 VAC O/P:FULL LOAD Ta= 45 °C HUMIDITY= 95 %R.H	TEST : OK	P																																																																																
5	TEMPERATURE COEFFICIENT	± 0.03 %(0~50°C)	I/P: 230 VAC O/P:FULL LOAD	± 0.01 %(0~50°C)	P																																																																																
6	VIBRATION TEST	1 Carton & 1 Set Operating at I/P: 230VAC NO LOAD (1) Waveform: Sine Wave (2) Frequency:10~500Hz (3) Sweep Time:10min/sweep cycle (4) Acceleration:2G (5) Test Time:1 hour in each axis (X.Y.Z) (6) Ta:25°C		TEST : OK	P																																																																																

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3 KVAC/min I/P-FG: 1.5 KVAC/min O/P-FG: 0.5 KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25℃	I/P-O/P: 6.87 mA I/P-FG: 6.18 mA O/P-FG: 4.25 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25℃	I/P-O/P: 12 GΩ I/P-FG: 9 GΩ O/P-FG: 10 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	8 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50051249 UL: File NO : E183223			P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	PASS	P
2	CONDUCTION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25℃	PASS Test by certified Lab	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25℃	PASS Test by certified Lab	P
4	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	P
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	P
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :1KV L,N-PE:2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	P
7	Test by certified Lab & Test Report Prepare				

M.T.B.F & LIFE CYCLE CALCULATION

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C205 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 2220955 HRS I/P: 230VAC O/P:FULL LOAD Ta= 45 °C LIFE TIME= 655699 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 116.4K HRS			P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q 52 Rated 2SK2850 : 900 V 6 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 792 V (2) 820 V (3) 792 V	P
2	Diode Peak Voltage	D 72 Rated MBR3060PT : 60V 30A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 37.4 V (2) 47.2 V (3) 45.6 V	P
3	Clamp Diode Peak Voltage	D 50 Rated UF5408 3A/1KV	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 776 V (2) 776 V	P
4	Input Capacitor Voltage	C5 Rated :150 u / 400V/ 85°C	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta:25°C	(1) 380 V (2) 380 V (3) 396 V	P
5	Control IC Voltage Test	U50 Rated 3845 : 30V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta:25°C	(1) 16.4 V (2) 14.7 V (3) 16.3 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/8/13	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/11/9	PRODUCT SAMPLE W0409A42	PASS	VINCENT TSENG	MAX LIN
2005/1/5	PRODUCT SAMPLE W0411C25	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023