

MODEL:PSP-600-27

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°C | V1: 51 mVp-p (Max) | P |
| 2 | OUTPUT VOLTAGE ADJUST RANGE | CH1: 24V~ 30 V | I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C | 22.29 V~ 33.06 V/ 230 VAC 22.29 V~ 33.06 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°C | V1: 0.37 %~ -0.37 % | P |
| 4 | LINE REGULATION | V1: 0.5 %~ -0.5 % (Max) | I/P: 155VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C | V1: 0 %~ 0 % | P |
| 5 | LOAD REGULATION | V1: 0.5 %~ -0.5 % (Max) | I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C | V1: 0.37 %~ -0.37 % | 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°C | 230VAC/ 941 ms 115VAC/ 802 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°C | 230VAC/ 4 ms 115VAC/ 4 ms | P |
| 8 | HOLD UP TIME | 230VAC: 16 ms (Min) 115VAC: 16 ms (Min) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | 230VAC/ 26 ms 115VAC/ 26 ms | P |
| 9 | OVER/UNDERSHOOT TEST | < ±5% | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | TEST: <5 % | P |
| 10 | DYNAMIC LOAD | V1: 2700 mVp-p | I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C | 433 mVp-p | P |

INPUT FUNCTION TEST

| N O | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|-----|-----------------------|--|--|--|---------|
| 1 | INPUT VOLTAGE RANGE | 88VAC~264 VAC | I/P:TESTING O/P:FULL LOAD Ta:25°C | 67V~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°C | TEST: OK | P |
| 3 | POWER FACTOR | 0.95 / 230 VAC (Min) 0.98 / 115 VAC (Min) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | PF= 0.97 / 230 VAC PF= 0.99 / 115 VAC | P |
| 4 | EFFICIENCY | 86% (TYP) | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | 88.3 % | P |
| 5 | INPUT CURRENT | 230V/ 4.1 A (Max) 115V/ 8.2 A (Max) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | I = 3.2 A/ 230 VAC I = 6.4 A/ 115 VAC | P |
| 6 | INRUSH CURRENT | 230V/ 50 A (Max) 115V/ 25 A (Max) COLD START | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | I = 30 A/ 230 VAC I = 15 A/ 115 VAC | P |
| 7 | LEAKAGE CURRENT | < 1 mA / 240 VAC | I/P: 254 VAC O/P:Min LOAD Ta:25°C | L-FG: 0.98 mA N-FG: 1 mA | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------------|--|--|---|---------|
| 1 | OVER LOAD PROTECTION | 105%~ 135 % | I/P: 230 VAC I/P: 115 VAC O/P: TESTING Ta:25°C | 114 %/ 230 VAC 114 %/ 115 VAC Constant current limiting | P |
| 2 | OVER VOLTAGE PROTECTION | CH1: 31 V~ 36.5 V | I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25°C | 33.5 V/ 230 VAC 33.5 V/ 115 VAC Shunt down Re- power ON | P |
| 3 | OVER TEMPERATURE PROTECTION | SPEC: TSW1: 85± 5°C O.T.P TSW2: 80± 5°C 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°C | NO DAMAGE Foldback Current Limiting | P |

CONTROL FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-------------------|---|---|---|---------|
| 1 | FAN SPEED CONTROL | ----- | I/P: 230 VAC O/P: FULL LOAD Ta:25°C | Fan Voltage= 11.75 V | P |
| 2 | REMOTE CONTROL | Rc+ / Rc- SHORT POWER ON OPEN POWER OFF | I/P: 230 VAC O/P: FULL LOAD Ta:25°C | 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°C | POWER ON : 5.03 V POWER OFF : 0 V | P |
| 4 | CURRENT SHARING | PSU1-PSU2 < 10% | I/P: 230 VAC O/P: FULL/50% LOAD Ta:25°C | O/P: 100% PSU1: 678 W PSU2: 724 W O/P: 50% PSU1: 336 W PSU2: 368 W | P |
| 5 | REMOTE SENSE | >0.3V | I/P: 230 VAC O/P: FULL LOAD Ta:25°C | >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 | | | P |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 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 : | N/A |

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°C | I/P-O/P: 7 mA I/P-FG: 6.2 mA O/P-FG: 5 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°C | I/P-O/P: 6G Ω I/P-FG: 5G Ω O/P-FG: 8G Ω NO DAMAGE | P |
| 3 | GROUNDING CONTINUITY | FG(PE) TO CHASSIS OR TRACE < 100 mΩ | 40 A / 2min Ta:25°C | 5 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°C | PASS | P |
| 2 | CONDUCTION | EN55022 CLASS B | I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C | PASS Test by certified Lab | P |
| 3 | RADIATION | EN55022 CLASS B | I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C | PASS Test by certified Lab | P |
| 4 | E.S.D | EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |
| 5 | E.F.T | EN61000-4-4 INDUSTRY INPUT: 2KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |
| 6 | SURGE | IEC61000-4-5 INDUSTRY L-N :2KV L,N-PE:4KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |
| 7 | Test by certified Lab & Test Report Prepare | | | | |



M.T.B.F & LIFE CYCLE CALCULATION

| NO | TEST ITEM | SPECICATION | 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 | Conducted by Parts Stress Analysis Prediction 1132.9K hrs min. Telcordia SR-332 (Bellcore) ; 142.2K hrs min. MIL-HDBK-217F (25°C) | | | P |

COMPONENT STRESS TEST

| NO | TEST ITEM | SPECICATION | 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) 748 V (2) 800 V (3) 776 V | P |
| 2 | Diode Peak Voltage | D 72 Rated D9202 : 200V 20A | I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C | (1) 126 V (2) 135 V (3) 134 V | P |
| 3 | Clamp Diode Peak Voltage | D 50 Rated BYM26E : 1KV 2.3 A | I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C | (1) 768 V (2) 768 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) 382 V (2) 382 V (3) 382 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) 16.8 V (2) 15.2 V (3) 16.7 V | P |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|-----------|----------------------------|-------------|---------------|----------|
| 2004/8/13 | RD SMAPLE | PASS | VINCENT TSENG | MAX LIN |
| 2004/11/9 | PRODUCT SAMPLE W0409A42 | PASS | VINCENT TSENG | MAX LIN |

2003/12/12 A50-F023