

MODEL : PPS-125-5V

OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|--------------------------------|--|---|--|---------|
| 1 | RIPPLE & NOISE | V1: 100 mVp-p (Max) | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | V1: 8 mVp-p (Max) | P |
| 2 | OUTPUT VOLTAGE ADJUST RANGE | CH1: 4.75 V - 5.25 V | I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C | 4.53V-5.58 V/ 230 VAC 4.53V-5.58 V/ 115 VAC | P |
| 3 | OUTPUT VOLTAGE TOLERANCE | V1: +2 %~ -2 % (Max) | I/P: 264 VAC / 100 VAC O/P:FULL/ 0 % LOAD Ta:25°C | V1: 0.2%~ -0.2% | P |
| 4 | LINE REGULATION | V1: +0.5%~ -0.5 % (Max) | I/P: 264 VAC ~ 100 VAC O/P:FULL LOAD Ta:25°C | V1: 0 %~0% | P |
| 5 | LOAD REGULATION | V1: +1 %~ -1 % (Max) | I/P: 230 VAC O/P:FULL -MIN LOAD Ta:25°C | V1:0.2 %~ -0.2 % | P |
| 6 | SET UP TIME | 230 VAC/ 1000 ms (Max) 115 VAC/ 2000 ms (Max) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | 230 VAC/430 ms 115 VAC/972 ms | P |
| 7 | RISE TIME | 230 VAC/ 30 ms (Max) 115 VAC/ 30 ms (Max) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | 230 VAC/ 19 ms 115 VAC/ 18 ms | P |
| 8 | HOLD UP TIME | 230 VAC/ 20 ms(TYP) 115 VAC/ 20 ms(TYP) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | 230 VAC/ 28ms 115 VAC/ 28 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: 1000 mVp-p | I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C | 99mVp-p | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------|--|---|--|---------|
| 1 | INPUT VOLTAGE RANGE | 264 VAC~ 90 VAC | I/P:TESTING O/P:FULL LOAD Ta:25°C | 63 V - 264 V | P |
| | | | I/P: LOW-LINE-3V= 87 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 | 47 HZ ~ 63 HZ NO DAMAGE OSC | I/P: 264 VAC ~ 100 VAC O/P:FULL-MIN LOAD Ta:25°C | TEST: OK | P |
| 3 | POWER FACTOR | 0.93/ 230 VAC(TYP) <u>0.98</u> / 115 VAC(TYP) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | PF= 0.98 / 230 VAC PF= 1 / 115 VAC | P |
| 4 | EFFICIENCY | 79 % (TYP) | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | 80.8% | P |
| 5 | INPUT CURRENT | 230 V/ 0.75 A(TYP) 115 V/ 1.7 A (TYP) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | I = 0.58 A/ 230 VAC I = 1.14 A/ 115 VAC | P |
| 6 | INRUSH CURRENT | 230V/ 40 A(TYP) COLD START | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | I = 20 A/ 230 VAC | P |
| 7 | LEAKAGE CURRENT | < 2 mA / 240 VAC | I/P:254 VAC O/P:Min LOAD Ta:25°C | L-FG: 1.05 mA N-FG: 1.05 mA | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-------------------------|--|--|--|---------|
| 1 | OVER LOAD PROTECTION | 130 %- 160 % | I/P: 230 VAC I/P: 115 VAC O/P: TESTING Ta:25°C | 134%/ 230 VAC 136%/ 115 VAC Hiccup Mode | P |
| 2 | OVER VOLTAGE PROTECTION | CH1: 5.5 V- 6.75 V | I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25°C | 6.24V/ 230 VAC 6.24V/ 115 VAC Hiccup Model | P |
| 3 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P: 264 VAC O/P: FULL LOAD Ta:25°C | NO DAMAGE Hiccup Mode | P |

ENVIRONMENT TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT | |
|----|---|--|--|--------------------|---------|--|
| 1 | TEMPERATURE RISE TEST | MODEL : PPS-125-5 WITH FAN 17.8CFM 1. ROOM AMBIENT BURN-IN : 2 HRS I/P: 230 VAC O/P: 125% LOAD Ta= 27.2 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P: 230 VAC O/P: 125% LOAD Ta=51.6 °C | | | P | |
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| 2 | OVER LOAD BURN-IN TEST | NO DAMAGE 1 HOUR (MIN) | I/P: 230 VAC O/P: 135% LOAD with FAN Ta:25°C | TEST : OK | P | |
| 3 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P: 230VAC O/P: 125% LOAD with FAN Ta= -20 °C | TEST : OK | P | |
| 4 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE | I/P: 272 VAC O/P:125% LOAD with FAN Ta= 50 °C HUMIDITY= 95 %R.H | TEST : OK | P | |
| 5 | TEMPERATURE COEFFICIENT | ± 0.05 % (0-50°C) | I/P: 230 VAC O/P:125% LOAD with FAN | ± 0.001 % (0-50°C) | P | |
| 6 | VIBRATION TEST | 1 Carton & 1 Set Operating at I/P: 230 VAC 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°C | I/P-O/P: 0.9 mA I/P-FG: 6.8 mA O/P-FG: 0.3 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: 22GΩ I/P-FG: 13G Ω O/P-FG: 27G Ω NO DAMAGE | P |
| 3 | APPROVAL | TUV: Certificate NO : R50038987 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 LIGHT 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 LIGHT INDUSTRY INPUT: 1KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | 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°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 C 103 IS THE MOST CRITICAL COMPONENT WITH FAN I/P: 230VAC O/P:125% LOAD Ta=25 °C LIFE TIME=216593.8 HRS I/P: 230VAC O/P:125% LOAD Ta=50 °C LIFE TIME=27843.5 HRS | | | P |
| 2 | MTBF | MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 111.7K HRS | | | 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 2 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) 480 V (2) 724 V (3) 832 V | P |
| 2 | Diode Peak Voltage | D17 Rated ESAE83-004 :40 V 60 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) 20.2V (2) 24.6 V (3) 21.0 V | P |
| 3 | Clamp Diode Peak Voltage | D4 Rated HER208 : 1K V 2 A | I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C | (1) 668 V (2) 772 V | P |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|------------|---------------------------|-------------|---------------|----------|
| 2003/10/20 | RD SAMPLE | PASS | VINCENT TSENG | MAX LIN |
| 2003/12/17 | PRODUCT SAMPLE A311A38 | PASS | VINCENT TSENG | MAX LIN |
| 2004/3/18 | PRODUCT SAMPLE A402D23 | PASS | VINCENT TSENG | MAX LIN |

2003/12/12 A50-F023