

MODEL : PPS-200-24

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1:150 mVp-p (Max )	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 28 mVp-p (Max )	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 21.6V-26.4V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	19.11 V- 27.13 V/ 230 VAC 19.11 V- 27.13 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 2 %- -2 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.25 %- -0.25 %	P
4	LINE REGULATION	V1:0.5 %- -0.5 % (Max)	I/P: 115VAC ~ 264 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	230VAC: 1200 ms (Max) 115 VAC: 2500 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 961 ms 115VAC/ 1922 ms	P
7	RISE TIME	230VAC: 60 ms (Max) 115VAC: 60 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 49 ms 115VAC/ 51 ms	P
8	HOLD UP TIME	230VAC: 12 ms (TYP) 115VAC: 12 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 17.5 ms 115VAC/ 17.9 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: 2400 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	644 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90VAC~260 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	64 V~260V	P
			I/P: LOW-LINE-3V= 112 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: 90 VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK	P
3	POWER FACTOR	0.94 / 230 VAC(TYP) 0.98 / 115 VAC(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	PF= 0.947 / 230 VAC PF= 0.99 / 115 VAC	P
4	EFFICIENCY	89% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	89.3 %	P
5	INPUT CURRENT	230V/ 1.2 A (TYP) 115V/ 2.2 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 1.05 A/ 230 VAC I = 2.05 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 70 A (TYP)  COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 50 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.4 mA N-FG: 0.4 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	125 %/ 230 VAC 122 %/ 115 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 27.6V~ 32.4 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	29.6 V/ 230 VAC 29.6 V/ 115 VAC Hiccup Mode	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
4	OVER TEMPERATURE PROTECTION	SPEC: TSW1: 110 ± 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	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : PPS-200-24 WITH FAN 1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P: 230VAC O/P: FULL LOAD Ta= 26.5 °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: 115% LOAD Ta:25°C	TEST : OK	
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 50°C NO DAMAGE	I/P: 272 VAC O/P:FULL LOAD Ta= 50°C HUMIDITY= 95 %R.H	TEST : OK	P
5	TEMPERATURE COEFFICIENT	± 0.05 %(0-50°C)	I/P: 230 VAC O/P:FULL LOAD	± 0.02 %(0-50°C)	P
6	VIBRATION TEST	1 Carton & 1 Set (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: 1.44 mA I/P-FG: 3.11 mA O/P-FG: 0.42 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: 570M Ω I/P-FG: 20 GΩ O/P-FG: 7 GΩ NO DAMAGE	P
3	APPROVAL	TUV: Certificate NO : R50076119 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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C107 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 1167547 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 243715 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 108.4KHRS			P
3	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure : Above 30,000 hours @ TA 40°C			P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor ( D to S) or (C to E) <b>Peak Voltage</b>	Q6 Rated 2SK3683 : 500V 19A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 484 V (2) 470 V (3) 470 V	P
2	Diode Peak <b>Voltage</b>	Q103 Rated BYQ28X-200 : 200V 10A  Q104 Rated IRF3710 : 100V 57A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 167 V (2) 124 V (3) 172 V  (1) 94.5 V (2) 71 V (3) 88 V	P
3	<b>Input Capacitor Voltage</b>	C5 Rated :120u / 420V/ 105°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 (4)Burn in 1hour Ta:25°C	(1) 407 V (2) 399 V (3) 407 V (4) 407 V	P
4	<b>Control IC Voltage Test</b>	U3 Rated TI3845 : 30 V	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) 21.5 V (2) 15.7 V (3) 21.5 V	P
5	Power Transistor ( D to S) or (C to E) <b>Peak Voltage</b>	Q1 Rated IFFP460A : 500V 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) 432 V (2) 444 V (3) 436 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2005/11/22	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2006/2/6	PRODUCT SAMPLE W0512B51	PASS	VINCENT TSENG	MAX LIN
2006/5/11	PRODUCT SAMPLE W0604A47	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023