MODEL：PB-300P-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	BOOST CHARGE VOLTAGE	14.4V (±0.2V)	I/P: 230 VAC I/P: 115 VAC O/P:90% LOAD Ta:25℃	14.38 V/ 230 VAC 14.38 V/ 115 VAC	P
2	FLOAT CHARGE VOLTAGE	13.45V~13.75V	I/P: 230 VAC I/P: 115 VAC O/P: N0 LOAD Ta:25℃	13.72 V/ 230 VAC 13.72 V/ 115 VAC	P
3	OUTPUT VOLTAGE ADJUST RANGE	CH1: 13V~ 14.7V	I/P: 230 VAC I/P: 115 VAC O/P:NO LOAD Ta:25℃	12.85 V~ 15.25 V/ 230 VAC 12.87 V~ 15.27 V/ 115 VAC	p
4	MAX. OUTPUT CURRENT	20.85A	I/P： 230 VAC O/P：CHROMA C.V MODE=12V Ta：25℃	21 A/ 230 VAC	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	180VAC~264 VAC	I/P:TESTING O/P: 90% LOAD Ta:25℃	141 V~264V	P
			I/P: LOW-LINE-3V= 177 V HIGH-LINE+15%=300 V O/P: 90% LOAD /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: 180VAC ~ 264 VAC O/P: 90% LOAD ~MIN LOAD Ta:25℃	TEST: OK	P
3	POWER FACTOR	0.65 / 230 VAC (TYP)	I/P: 230 VAC O/P: 90% LOAD Ta:25℃	PF= 0.73 / 230 VAC	P
4	EFFICIENCY	85 % (TYP)	I/P: 230 VAC O/P: 90% LOAD Ta:25℃	87.2 %	P
5	INPUT CURRENT	230V/ 3 A (TYP) 115V/ 6 A(TYP)	I/P: 230 VAC I/P: 115 VAC O/P: 90% LOAD Ta:25℃	I = 1.8 A/ 230 VAC I = 4.8 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 60 A (TYP) COLD START	I/P: 230 VAC O/P: 90% LOAD Ta:25℃	I = 52 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 3.5 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25℃	L-FG: 1.3 mA N-FG: 1.3 mA	p

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	90 %~ 110 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25℃	102 %/ 230 VAC 101 %/ 115 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 15V~ 17V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	15.9 V/ 230 VAC 15.9 V/ 115 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	Automatically derate charge current until zero	I/P: 230 VAC O/P: 90% LOAD	O.T.P. Active Automatically derate charge current until zero	p
4	REVERSE POLARITY	BY internal fuse	I/P: 230 VAC Ta:25℃	Fuse open	p

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	FAN ON/OFF CONTROL ANO LED TEST	-------	I/P: 230 VAC O/P:TESTING	≤ 1.7 A LED:GREEN ≥ 1.8 A LED:RED	P
2	REMOTE CONTROL (CN5)	OPEN : Normal work Short : Stop charging	I/P: 230 VAC O/P: BAT 190AH Ta:25℃	OPEN : Normal work Short : Stop charging	p

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL：PB-300P-12 1. HIGH AMBIENT BURN-IN：15HRS I/P: 230VAC O/P: BAT 190AH CASE= 30.8 ℃ 2. HIGH AMBIENT BURN-IN：7HRS I/P: 264VAC O/P: BAT 190AH CASE = 39.7 ℃ 3. HIGH AMBIENT BURN-IN：15HRS I/P: 180VAC O/P: BAT 190AH CASE = 42.5 ℃ 4. HIGH AMBIENT BURN-IN：7HRS I/P: 132VAC O/P: BAT 190AH CASE = 31.4 ℃ 5. HIGH AMBIENT BURN-IN：17HRS I/P: 90VAC O/P: BAT 190AH CASE = 37 ℃			P
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: BAT 190AH CASE= -10 ℃	TEST：OK	P
3	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 25℃ NO DAMAGE	I/P: 272 VAC O/P: 90% LOAD Ta= 95℃ HUMIDITY= 95 %R.H	TEST：OK	P
4	TEMPERATURE COEFFICIENT	± 0.05 %(0~50℃)	I/P: 230 VAC O/P: BAT 190AH	± 0.02 %(0~50℃)	P
5	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℃		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: 10.63 mA I/P-FG: 8.51 mA O/P-FG: 12.02 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: 3 GΩ I/P-FG: 3 GΩ O/P-FG: 3 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	11 mΩ	P
4	APPROVAL	TUV: Certificate NO ： 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: 90% LOAD Ta:25℃	PASS	P
2	CONDUCTION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P: 90% LOAD /50% LOAD Ta:25℃	PASS Test by certified Lab	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P: 90% 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: 90% LOAD Ta:25℃	CRITERIA A	P
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P: 90% 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: 90% 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 C104 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P: 90% LOAD CASE= 25 ℃ LIFE TIME= 1373958 HRS I/P: 230VAC O/P: 75% LOAD CASE= 50 ℃ LIFE TIME= 307095 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 115.8KHRS			P
3	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure : Above 30,000 hours @ TA 25℃			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 2 Rated 2SK2850 : 900V 6A	I/P:High-Line +3V = 267 V O/P: (1) 90% LOAD Turn on (2) 90% LOAD (3)Output Short Ta:25℃	(1) 880 V (2) 760 V (3) 765 V	P
2	Diode Peak **Voltage**	D102 Rated FME-230A : 100V 30 A	I/P:High-Line +3V = 267 V O/P: (1) 90% LOAD Turn on (2) 90% LOAD (3)Output Short Ta:25℃	(1) 84 V (2) 82.5 V (3) 85.5 V	P
3	Clamp Diode Peak **Voltage**	D2 Rated SF5408 : 1KV 3A	I/P:High-Line +3V = 267 V O/P: (1) 90% LOAD Ta:25℃	(1) 705 V	P
4	**Input Capacitor Voltage**	C5 Rated :470 u / 200V/105℃	I/P:High-Line +3V = 267 V O/P: (1) 90% LOAD Turn on /Off (2) Min load Turn on /Off (3) 90% /Min load Change (4)Burn in 1hour Ta:25℃	(1) 180 V (2) 185 V (3) 185 V (4) 180 V	P
5	**Control IC Voltage Test**	U1 Rated 3845 : 30V	I/P:High-Line +3V = 267 V O/P: (1) 90% LOAD Turn on /Off (2) Min load Turn on /Off (3) 90% /Min load Change Ta:25℃	(1) 20.2 V (2) 19.8 V (3) 20.2 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2005/11/30	RD SMAPLE	PASS	VINCENT TSENG	MAX LIN
2006/6/22	PRODUCT SAMPLE W0604B27	PASS	VINCENT TSENG	MAX LIN
2006/8/11	PRODUCT SAMPLE W0607B40	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023