MODEL：PLN-30-36

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 4.5 Vp-p (Max)	I/P: 230VAC O/P: 100% LOAD Ta:25℃	V1: 2.7 Vp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 34.2 V~ 39.6 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	32.4V~ 40.52 V/ 230 VAC 32.4V~ 40.52 V/ 115 VAC	P
3	OUTPUT CURRENT ADJUST RANGE	CH1: 0.63A~0.865A	I/P: 230 VAC I/P: 115 VAC Ta:25℃	0.57 A~ 1.01 A/ 230 VAC 0.57 A~ 1.01 A/ 115 VAC	P
4	OUTPUT VOLTAGE TOLERANCE	V1: 10 %~ -5 % (Max)	I/P: 100 VAC / 295 VAC O/P: 100% LOAD / MIN LOAD Ta:25℃	V1: 3.9 %~ -3.9 %	P
5	LINE REGULATION	V1: 3 %~ -3 % (Max)	I/P: 100VAC ~ 295 VAC O/P: 100% LOAD Ta:25℃	V1: 1 %~ -1 %	P
6	LOAD REGULATION	V1: 5 %~ -5 % (Max)	I/P: 230 VAC O/P: 100% LOAD ~MIN LOAD Ta:25℃	V1: 0.7 %~ -0.7 %	P
7	SET UP TIME	230VAC: 500 ms (Max) 115 VAC: 3000 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P: 100% LOAD Ta:25℃	230VAC/ 378 ms 115VAC/ 1702 ms	P
8	RISE TIME	230VAC: 150 ms (Max) 115VAC: 150 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P: 100% LOAD Ta:25℃	230VAC/ 51 ms 115VAC/ 31 ms	P
9	OVER/UNDERSHOOT TEST	< ±10%	I/P: 230 VAC O/P: 100% LOAD Ta:25℃	TEST: <10 %	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90VAC~295 VAC	I/P:TESTING O/P: 100% LOAD Ta:25℃	73 V~295V	P
			I/P: LOW-LINE-3V= 87V HIGH-LINE+10V=305V O/P: 100% 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	I/P: 90 VAC ~ 295 VAC O/P: 100% LOAD ~MIN LOAD Ta:25℃	TEST: OK	P
3	POWER FACTOR	0.90 / 230 VAC(TYP) 0.95 / 115 VAC(TYP) 0.90 / 277VAC(TYP)	I/P: 230 VAC I/P: 115 VAC I/P: 277 VAC O/P: 100% LOAD Ta:25℃	PF= 0.929 / 230 VAC PF= 0.987 / 115 VAC PF= 0.905 /277VAC	P
4	EFFICIENCY	85% (TYP)	I/P: 230 VAC O/P: 100% LOAD Ta:25℃	87.8%	P
5	INPUT CURRENT	230V/ 0.2 A (TYP) 115V/ 0.4 A (TYP) 277V/ 0.15 A (TYP)	I/P: 230 VAC I/P: 115 VAC I/P: 277 VAC O/P: 100% LOAD Ta:25℃	I = 0.17 A/ 230 VAC I = 0.32 A/ 115 VAC I = 0.14 A/ 277 VAC	P
6	INRUSH CURRENT	230V/ 35 A (TYP) COLD START	I/P: 230 VAC O/P: 100% LOAD Ta:25℃	I = 29 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 0.5 mA / 240 VAC	I/P: 240VAC O/P:Min LOAD Ta:25℃	L-FG: 0.001 mA N-FG: 0.001 mA	P
8	TOTAL HARMONIC DISTORTION	THD< 20% when output loading ≧ 75% at 115VAC/230VAC input output loading ≧ 80% at 277VAC input	I/P ： 230VAC I/P ： 115VAC O/P ：75% LOAD Ta ： 25℃	THD ： 14.62 % THD ： 12.25 %	P
			I/P ： 277VAC O/P ：80% LOAD Ta ： 25℃	THD ： 15.92 %	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	100 %~ 110 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25℃	105 %/ 230 VAC 105 %/ 115 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 40 V~ 48 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	48 V/ 230 VAC 48 V/ 115 VAC Shut down Re- power ON	P

3	OVER TEMPERATURE PROTECTION	SPEC: TSW1: 95± 10℃ O.T.P NO DAMAGE	I/P: 230 VAC O/P: 100% LOAD	O.T.P. Active Shut down Re-power ON	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 295 VAC O/P: 100% LOAD Ta:25℃	NO DAMAGE Hiccup Mode	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL：PLN-30-24 1. ROOM AMBIENT BURN-IN：17 HRS I/P: 230VAC O/P: 100% LOAD Ta= 24.7 ℃ 2. HIGH AMBIENT BURN-IN：1 HRS I/P: 230VAC O/P: 100% LOAD Ta= 40.8 ℃			P

NO	Position	P/N	ROOM AMBIENT Ta= 24.7℃	HIGH AMBIENT Ta= 40.8℃
1	Q1	P9NK70ZFP 7.5A/700A	71.1℃	84.0℃
2	D2	1N4007 1A/1KV	81.7℃	94.3℃
3	LF1	TR-572	54.0℃	66.3℃
4	U1	TDA4863	63.8℃	76.3℃
5	BD1	UD2KB80	59.8℃	72.2℃
6	C48	47U/35V 105℃ ZLH	65.9℃	78.0℃
7	C7	474/450V 105℃	64.5℃	77.0℃
8	T1 COIL	TF-1596	85.9℃	96.8℃
9	TSW1	NTC200K 5%	68.2℃	81.3℃
10	L1	TR-751	60.6℃	72.9℃
11	C106	560U/35V 105℃ ZLH	69.1℃	80.7℃
12	D100	FMX-12SL 10A/200V	68.1℃	79.4℃
13	LF100	TR-574	51.5℃	63.2℃
14	CASE	UP CASE	51.9℃	65.3℃

2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 115 % LOAD Ta:25℃	TEST：OK	P
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: 100 % LOAD Ta= -30 ℃	TEST：OK	P
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 40℃ NO DAMAGE	I/P: 305 VAC O/P: 100% LOAD Ta= 40℃ HUMIDITY= 95 %R.H	TEST：OK	P
5	TEMPERATURE COEFFICIENT	± 0.06 %(0~50℃)	I/P: 230 VAC O/P:100% LOAD	± 0.027 %(0~50℃)	P
6	VIBRATION TEST	1 Carton & 1 Set (1) Waveform: Sine Wave (2) Frequency:10~500Hz (3) Time:72min (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: 3.75KVAC/min	I/P-O/P: 4.2KVAC/min Ta:25℃	I/P-O/P: 2.23 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P: 500 VDC Ta:25℃ / 70% RH	I/P-O/P: 30 GΩ NO DAMAGE	P
3	APPROVAL	TUV: Certificate NO ：R50164054 UL: File NO ：E186843			P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A CLASS C	I/P: 230 VAC/50HZ O/P: 100% LOAD/70%LOAD Ta:25℃	PASS	P
2	CONDUCTION	EN55015 CLASS B	I/P: 230 VAC (50HZ) O/P: 100% LOAD /50% LOAD Ta:25℃	PASS Test by certified Lab	P
3	RADIATION	EN55015 CLASS B	I/P: 230 VAC (50HZ) O/P: 100% 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: 100% LOAD Ta:25℃	CRITERIA A	P
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P: 100% LOAD Ta:25℃	CRITERIA A	P
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :1KV	I/P: 230 VAC/50HZ O/P: 100% 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	PLN-30-24 : SUPPOSE C106 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P: 100% LOAD Ta= 25 ℃ LIFE TIME= 144427 HRS I/P: 230VAC O/P: 100% LOAD Ta= 40 ℃ LIFE TIME= 69825 HRS I/P: 230VAC O/P: 75% LOAD Ta= 40 ℃ LIFE TIME= 98735 HRS I/P: 230VAC O/P: 50% LOAD Ta= 40 ℃ LIFE TIME= 144427 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 621.4K HRS			P
3	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure(Expected Life) : 20,000 hours @ Tcase 80℃; 50,000 hours @ Tcase 65℃			P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) **Peak Voltage**	Q1 Rated STP9NK70ZFP : 700V 7.5A	I/P:High-Line +3V = 298 V O/P: (1) 100% LOAD Turn on (2) Output Short Ta:25℃	(1) 574 V (2) 490 V	P
2	Diode Peak **Voltage**	D100 Rated FCF10A40 : 10A/400V	I/P:High-Line +3V = 298 V O/P: (1) 100% LOAD Turn on (2)Output Short Ta:25℃	(1) 227 V (2) 191 V	P
3	Clamp Diode Peak **Voltage**	D2 Rated IN4007 : 1000V 1A	I/P:High-Line +3V = 298 V O/P: (1) Dynamic Load 90%Duty/1KHz Ta:25℃	(1) 404 V	P
4	**Control IC Voltage Test**	U1 Rated TDA4863G : 22V	I/P:High-Line +3V = 298 V O/P: (1) 100% LOAD Turn on /Off (2) Min load Turn on /Off (3) 100% /Min load Change Ta:25℃	(1) 14.63 V (2) 14.63 V (3) 14.63 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2007/2/1	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2007/5/9	PRODUCT SAMPLE W0703A44	PASS	VINCENT TSENG	MAX LIN
2007/6/4	PRODUCT SAMPLE W0705C46	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023