

MODEL : PLN-100-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1 : 150 mVp-p (Max)	I/P : 230VAC O/P : 95% LOAD Ta : 25°C	V1 : 29 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1 : 10.2V~12V	I/P : 230 VAC I/P : 115 VAC Ta : 25°C	9.68V~ 12.37 V/ 230 VAC 9.68V~ 12.37 V/ 115 VAC	P
3	OUTPUT CURRENT ADJUST RANGE	CH1 : 5A~3.75A	I/P : 230 VAC I/P : 115 VAC Ta : 25°C	3.36 A~ 5.85 A/ 230 VAC 3.33 A~ 5.83 A/ 115 VAC	P
4	OUTPUT VOLTAGE TOLERANCE	V1 : 3%~ -3% (Max)	I/P : 100 VAC / 295 VAC O/P : 95% LOAD / MIN LOAD Ta : 25°C	V1 : 0.15 %~ -0.15 %	P
5	LINE REGULATION	V1 : 1%~ -1% (Max)	I/P : 100VAC ~ 295 VAC O/P : 95% LOAD Ta : 25°C	V1 : 0.05 %~ -0.05 %	P
6	LOAD REGULATION	V1 : 2%~ -2% (Max)	I/P : 230 VAC O/P : 95% LOAD ~MIN LOAD Ta : 25°C	V1 : 0.15 %~ -0.15 %	P
7	SET UP TIME	230VAC : 500 ms (Max) 115 VAC : 1200 ms (Max)	I/P : 230 VAC I/P : 115 VAC O/P : 95% LOAD Ta : 25°C	230VAC/ 358.326 ms 115VAC/ 344.408 ms	P
8	RISE TIME	230VAC : 80 ms (Max) 115VAC : 80 ms (Max)	I/P : 230 VAC I/P : 115 VAC O/P : 95% LOAD Ta : 25°C	230VAC/ 18 ms 115VAC/ 28 ms	P
9	HOLD UP TIME	230VAC : 60 ms (TYP) 115VAC : 16 ms (TYP)	I/P : 230 VAC I/P : 115 VAC O/P : 95% LOAD Ta : 25°C	230VAC/ 174 ms 115VAC/ 56 ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P : 230 VAC O/P : 95% LOAD Ta : 25°C	TEST : <5 %	P
11	DYNAMIC LOAD	V1 : 1200 mVp-p	I/P : 230 VAC O/P : 95% LOAD /Min LOAD 90%DUTY/1KHZ Ta : 25°C	415 mVp-p	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90VAC~295 VAC	I/P : TESTING O/P : 95% LOAD Ta : 25°C	40 V~295V	P
			I/P : LOW-LINE-3V= 87V (PLEASE CHECK DERATING CURVE) HIGH-LINE+10V=305 V O/P : 95% 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 : 95% LOAD ~MIN LOAD Ta : 25°C	TEST : OK	P
3	POWER FACTOR	0.95 / 230 VAC(TYP) 0.95 / 115 VAC(TYP) 0.92 / 277 VAC(TYP)	I/P : 230 VAC I/P : 115 VAC I/P : 277 VAC O/P : 95% LOAD Ta : 25°C	PF= 0.97 / 230 VAC PF= 0.991 / 115 VAC PF= 0.922 /277VAC	P
4	EFFICIENCY	83% (TYP)	I/P : 230 VAC O/P : 95% LOAD Ta : 25°C	85.13 %	P
5	INPUT CURRENT	230V/ 0.4 A (TYP) 115V/ 0.8 A (TYP)	I/P : 230 VAC I/P : 115 VAC O/P : 95% LOAD Ta : 25°C	I = 0.31 A/ 230 VAC I = 0.58 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 40 A (TYP) COLD START	I/P : 230 VAC O/P : 95% LOAD Ta : 25°C	I = 32 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 0.75 mA / 240 VAC	I/P : 264 VAC O/P : Min LOAD Ta : 25°C	L-FG : 0.36 mA N-FG : 0.36 mA	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	95 %~ 102 %	I/P : 230 VAC I/P : 115 VAC O/P : TESTING Ta : 25°C	98.8 %/ 230 VAC 98.2 %/ 115 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1 : 13 V~ 16 V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	14.5 V/ 230 VAC 14.5 V/ 115 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	Shut down Re-power ON	I/P : 230 VAC O/P : 95% LOAD	O.T.P. Active Shut down Re-power ON	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P : 264 VAC O/P : 95% LOAD Ta : 25°C	NO DAMAGE Hiccup Mode or Constant Current Limiting	P

## ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT																																																																																					
1	TEMPERATURE RISE TEST	MODEL : PLN-100-12 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : 95% LOAD Ta= 30.1 °C 2. HIGH AMBIENT BURN-IN : 62 HRS I/P : 230VAC O/P : 95% LOAD Ta= 45.4 °C			P																																																																																					
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P : 230 VAC O/P : 100 % LOAD Ta : 25°C	TEST : OK	P																																																																																					
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 230 VAC O/P : 95 % LOAD Ta= -30 °C	TEST : OK	P																																																																																					
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 40°C NO DAMAGE	I/P : 295 VAC O/P : 95% LOAD Ta= 40°C HUMIDITY= 95 %R.H	TEST : OK	P																																																																																					
5	TEMPERATURE COEFFICIENT	± 0.03 %(0~50°C)	I/P : 230 VAC O/P : 95% LOAD	± 0.01 %(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 : 3.75 KVAC/min I/P-FG : 2KVAC/min O/P-FG : 0.5 KVAC/min	I/P-O/P : 4.2 KVAC/min I/P-FG : 2.4KVAC/min O/P-FG : 0.6 KVAC/min Ta : 25°C	I/P-O/P : 5.84 mA I/P-FG : 4.89 mA O/P-FG : 2.566 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P : 500VDC>100MΩ	I/P-O/P : 500 VDC Ta : 25°C	I/P-O/P : 9.6 GΩ NO DAMAGE	P
3	APPROVAL	TUV : Certificate NO : R50091288 UL : File NO : E307078			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 : 95% LOAD Ta : 25°C	PASS	P
2	CONDUCTION	EN55022 EN55015 CLASS B	I/P : 230 VAC (50HZ) O/P : 95% LOAD /50% LOAD Ta : 25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 EN55015 CLASS B	I/P : 230 VAC (50HZ) O/P : 95% 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 : 95% 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 : 95% LOAD Ta : 25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N : 2KV L,N-PE : 4KV	I/P : 230 VAC/50HZ O/P : 95% 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	PLN-100-12:SUPPOSE C105 IS THE MOST CRITICAL COMPONENT I/P : 230VAC O/P : 95% LOAD Ta= 25 °C LIFE TIME= 96459 HRS I/P : 230VAC O/P : 95% LOAD Ta= 40 °C LIFE TIME= 42846 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE : 303.1K HRS			P
3	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure(Expected Life) : 20,000 hours @ Tcase 65°C; 50,000 hours @ Tcase 50°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	Q1 Rated SPA11N65C3 : 650V 11 A	I/P : High-Line +3V = 298 V O/P : (1) 95% LOAD Turn on (2) Output Short Ta : 25°C	(1) 618 V (2) 558 V	P
2	Diode Peak Voltage	Q100 Rated IRF2807 : 75V 82A	I/P : High-Line +3V = 298 V O/P : (1) 95% LOAD Turn on (2)Output Short Ta : 25°C	(1) 62.4 V (2) 48 V	P
3	Clamp Diode Peak Voltage	D2 Rated IN4007 : 1KV 1A	I/P : High-Line +3V = 298 V O/P : (1) Dynamic Load 90%Duty/1KHz Ta : 25°C	(1) 508 V	P
4	Input Capacitor Voltage	C5 Rated : 150 u / 400V/ 105°C	I/P : High-Line +3V = 298 V O/P : (1) 95% LOAD Turn on /Off (2) Min load Turn on /Off (3) 95% /Min load Change Ta : 25°C	(1) 383 V (2) 383 V (3) 383 V	P
5	Control IC Voltage Test	U2 Rated TEA1552 : 20V	I/P : High-Line +3V = 298 V O/P : (1) 95% LOAD Turn on /Off (2) Min load Turn on /Off (3) 95% /Min load Change Ta : 25°C	(1) 18.2 V (2) 17.9 V (3) 18.2 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2006/7/4	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2006/8/24	PRODUCT SAMPLE W0607C06	PASS	VINCENT TSENG	MAX LIN
2006/11/15	PRODUCT SAMPLE W0611A21	PASS	VINCENT TSENG	MAX LIN
2007/1/11	PRODUCT SAMPLE W0612C36	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023