

MODEL : PLN-100-24

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max)	I/P: 230VAC O/P: 95% LOAD Ta:25°C	V1: 16 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 20.4V~24 V	I/P: 230 VAC I/P: 115 VAC Ta:25°C	19.36V~ 24.58 V/ 230 VAC 19.36V~ 24.58 V/ 115 VAC	P
3	OUTPUT CURRENT ADJUST RANGE	CH1: 4.8 A~3.6 A	I/P: 230 VAC I/P: 115 VAC Ta:25°C	2.9 A~ 5.08 A/ 230 VAC 2.9 A~ 5.1 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: 1.6 %~ -1.6 %	P
5	LINE REGULATION	V1: 1 %~ -1 % (Max)	I/P: 100VAC ~ 295 VAC O/P: 95% LOAD Ta:25°C	V1: 0.03 %~ -0.03 %	P
6	LOAD REGULATION	V1: 2 %~ -2 % (Max)	I/P: 230 VAC O/P: 95% LOAD ~MIN LOAD Ta:25°C	V1: 0.18 %~ -0.18 %	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/ 360.439 ms 115VAC/ 355.303 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/ 6 ms 115VAC/ 6 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/ 111 ms 115VAC/ 36 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: 2400 mVp-p	I/P: 230 VAC O/P: 95% LOAD /Min LOAD 90%DUTY/1KHZ Ta:25°C	930 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	52V~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 OSC	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= 0.93 /277VAC	P
4	EFFICIENCY	88.5% (TYP)	I/P: 230 VAC O/P: 95% LOAD Ta:25°C	90 %	P
5	INPUT CURRENT	230V/ 0.55 A (TYP) 115V/ 1.1 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P: 95% LOAD Ta:25°C	I = 0.46 A/ 230 VAC I = 0.89 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 = 30 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: 0.34 mA N-FG: 0.34 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	98.2 %/ 230 VAC 99 %/ 115 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 27V~ 34 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	31.3 V/ 230 VAC 31.3 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



### 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: 1.3 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-100-24:SUPPOSE C105 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P: 95% LOAD Ta= 25 °C LIFE TIME= 50930 HRS I/P: 230VAC O/P: 95% LOAD Ta= 40 °C LIFE TIME= 20790 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) 564 V (2) 500 V	P
2	Diode Peak Voltage	Q100 Rated IRF3415 : 43A 150V	I/P:High-Line +3V = 298 V O/P: (1) 95% LOAD Turn on (2)Output Short Ta:25°C	(1) 120 V (2) 103 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) 510 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) 384 V (2) 384 V (3) 384 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) 17.8 V (2) 17.7 V (3) 17.8 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