

MODEL : LPL-18-24

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max)	I/P: 115 VAC O/P:FULL LOAD Ta:25°C	V1: 16 mVp-p (Max)	PASS
2	OUTPUT VOLTAGE TOLERANCE	V1: -3 %~ +3 % (Max)	I/P: 100VAC / 132VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: -0.157 %~ +0.157 %	PASS
3	LINE REGULATION	V1: -1 %~ +1 % (Max)	I/P: 100VAC ~ 132VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 %	PASS
4	LOAD REGULATION	V1: -2 %~ +2 % (Max)	I/P: 115 VAC O/P:FULL -MIN LOAD Ta:25°C	V1: -0.025 %~+0.05 %	PASS
5	SET UP TIME	115VAC/ 1500 ms (Max)	I/P: 115 VAC O/P:FULL LOAD Ta:25°C	115 VAC/ 1032.1 ms	PASS
6	RISE TIME	115VAC/ 30 ms (Max)	I/P: 115 VAC O/P:FULL LOAD Ta:25°C	115 VAC/ 11.9 ms	PASS
7	HOLD UP TIME	115VAC/ 20 ms (Typ)	I/P: 115 VAC O/P:FULL LOAD Ta:25°C	115 VAC/ 27.6 ms	PASS
8	OVER/UNDERSHOOT TEST	<±5%	I/P: 115 VAC O/P:FULL LOAD Ta:25°C	TEST: +1.66% -3.49%	PASS
9	DYNAMIC LOAD	V1: 1500 mVp-p	I/P: 115 VAC O/P: (1)FULL /Min LOAD 90%DUTY/1KHZ (2)FULL /Min LOAD 50%DUTY/120HZ Ta:25°C	(1) 270 mVp-p (2) 350 mVp-p	PASS

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90 VAC- 132 VAC	I/P: TESTING O/P: FULL LOAD Ta: 25°C	80 V- 132 V	PASS
			I/P: LOW-LINE-3V= 87 V HIGH-LINE+15%= 150 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: 90VAC ~132VAC O/P: FULL-MIN LOAD Ta: 25°C	TEST: OK	PASS
3	EFFICIENCY	83 % (Typ)	I/P: 115 VAC O/P: FULL LOAD Ta: 25°C	85.06 %	PASS
4	INPUT CURRENT	115 V/ 0.5 A (Typ)	I/P: 115 VAC O/P: FULL LOAD Ta: 25°C	I = 0.31 A / 115VAC	PASS
5	INRUSH CURRENT	115 V/ 40 A (Max) COLD START	I/P: 115 VAC O/P: FULL LOAD Ta: 25°C	I = 32.1 A / 115VAC	PASS

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	> 105% RATED OUTPUT POWER	I/P: 132 VAC I/P: 115 VAC I/P: 100 VAC O/P: TESTING Ta: 25°C	200 %/132VAC 186 %/115VAC 168 %/100VAC Hiccup Mode	PASS
2	OVER VOLTAGE PROTECTION	CH1: 27.6 V~ 32.4 V	I/P: 115 VAC O/P: MIN LOAD Ta: 25°C	30.48 V / 115VAC Shut off o/p voltage, clamping by zener diode	PASS
3	OVER TEMPERATURE PROTECTION	SPEC: Tj 140°C O.T.P. NO DAMAGE	I/P: 115 VAC O/P: FULL LOAD	127 °C / 115 VAC O.T.P. Active Hiccup Mode , recovers automatically after temperature goes down	PASS
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 132 VAC O/P: FULL LOAD Ta: 25°C	NO DAMAGE Hiccup Mode	PASS

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																	
1	TEMPERATURE RISE TEST	MODEL : LPL-18-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P: 115 VAC O/P: 100% LOAD Ta= 29.5 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 115 VAC O/P: 100% LOAD Ta= 49.9 °C			PASS																																																																	
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 115 VAC O/P: 130 % LOAD Ta:25°C	TEST : OK	PASS																																																																	
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 115 VAC O/P: 100 % LOAD Ta= -30 °C	TEST : OK	PASS																																																																	
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE	I/P: 136 VAC O/P:FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK	PASS																																																																	
5	TEMPERATURE COEFFICIENT	± 0.03 %(0-50°C)	I/P: 115 VAC O/P:FULL LOAD	± 0.003 %(0-50°C)	PASS																																																																	
6	STORAGE TEMPERATURE TEST	1. Thermal shock Temperature : -40°C ~ +80°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 5 CYCLE 5. Input/Output condition : STATIC		TEST : OK	PASS																																																																	
7.	THERMAL SHOCK TEST	1. Thermal shock Temperature : -30 °C ~ +55 °C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : 230VAC/Full Load 58SEC ON/2SEC OFF		TEST : OK	PASS																																																																	
8	VIBRATION TEST	1 Carton & 1 Set (1) Waveform: Sine Wave (2) Frequency:10~500Hz (3) Sweep Time:12min/sweep cycle (4) Acceleration:2G (5) Test Time:1 hour in each axis (X.Y.Z) (6) Ta:25°C		TEST : OK	PASS																																																																	

9	CAPACITOR LIFE CYCLE	SUPPOSE C105 IS THE MOST CRITICAL COMPONENT (1) I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 509389.6 HRS (2) I/P: 230 VAC O/P:FULL LOAD Ta= 40 °C LIFE TIME= 70622.1 HRS (3) I/P: 230 VAC O/P:75% LOAD Ta= 40 °C LIFE TIME= 88172.8 HRS (4) I/P: 230 VAC O/P:50% LOAD Ta= 40 °C LIFE TIME= 124711.8 HRS	PASS
10	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 1207.4K HRS	PASS
11	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure(Expected Life) : 20,000 hours @ Tcase 75°C; 50,000 hours @ Tcase60°C	PASS

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3.0 KVAC/min	I/P-O/P: 3.6 KVAC/min Ta:25°C	I/P-O/P: 0.220 mA NO DAMAGE	PASS
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P: 500 VDC Ta:25°C	I/P-O/P: >9999 MΩ NO DAMAGE	PASS
4	LEAKAGE CURRENT	< 0.25 mA / 115VAC	I/P: 132 VAC O/P:NO LOAD Ta:25°C	L-FG: 0.005 mA N-FG: 0.005 mA	PASS

E.M.C TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 115/120/110 VAC/50HZ O/P:100%/75%/50%/25% LOAD Ta:25°C	PASS	PASS
2	CONDUCTION	EN55022 CLASS B	I/P:115 VAC (50HZ) /115V(60HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab	PASS
3	RADIATION	EN55022 CLASS B	I/P: 115 VAC (50HZ)/115V(60HZ) O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	PASS
4	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR:8KV / Contact:4KV	I/P: 115 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	PASS
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 115 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	PASS
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :1KV L,N-PE:2KV	I/P: 115 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	PASS
7	Test by certified Lab & Test Report Prepare				



COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	U1 Rated FSQ0365RN : 650 V	I/P:High-Line +3V = 135 V O/P: (1)Full Load Turn on (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load 50% Load/ Min. Load 90%Duty/1KHz Ta:25°C	(1) 324 V (2) 338 V (3) 340 V (4) 322 V	PASS
2	Diode Peak Voltage	D 100 Rated HER303 : 200 V 3 A	I/P:High-Line +3V = 135 V O/P: (1)Full Load Turn on (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load 50% Load/ Min. Load 90%Duty/1KHz Ta:25°C	(1) 116 V (2) 84.0 V (3) 122 V (4) 98.0 V	PASS
3	Clamp Diode Peak Voltage	D1 Rated SBYV26C : 600 V 1 A	I/P:High-Line +3V = 135 V O/P: (1)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (2)Dynamic Load 50% Load/ Min. Load 90%Duty/1KHz Ta:25°C	(1) 294 V (2) 300 V	PASS
4	Input Capacitor Voltage	C 5 Rated CAPXON : 47 u / 200 V 105 °C / KF Series	I/P:High-Line +3V =135 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Burn-IN 0.5 Hour Ta:25°C	(1) 190 V (2) 166 V (3) 164 V	PASS
5	Control IC Voltage Test	U 1 Rated FSQ0365RN : 20 V	I/P:High-Line +3V =135 V O/P:(1) Output Short (2)O.L.P Ta:25°C	(1) 15.7 V (2) 16.2 V	PASS

2007/11/26 A50-G058

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2008/5/12	RD SAMPLE	PASS	SKY	LIUWY
2008/10/28	PRODUCT SAMPLE (W0810A022)	PASS	SKY	LIUWY
2009/3/15	PRODUCT SAMPLE (W0903A071)	PASS	SKY	LIUWY