

MODEL : S-15-12

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 50 mVp-p (Max)	I/P: 230VAC O/P: FULL LOAD Ta: 25°C	V1: 25 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 4.75 V- 5.5 V	I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta: 25°C	4.5 V- 5.7 V / 230 VAC 4.5 V- 5.7 V / 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 2 %- -2 % (Max)	I/P: 176 VAC / 264 VAC O/P: FULL / MIN LOAD Ta: 25°C	V1: 0.5 %- 0.5 %	P
4	LINE REGULATION	V1: 0.5 %- 0.5 % (Max)	I/P: 176VAC ~ 264 VAC O/P: FULL LOAD Ta: 25°C	V1: 0.1 %- 0.1 %	P
5	LOAD REGULATION	V1: 1 %- -1 % (Max)	I/P: 230 VAC O/P: FULL ~ MIN LOAD Ta: 25°C	V1: 0.5 %- 0.5 %	P
6	SET UP TIME	230VAC: 200 ms (Max)	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	230VAC/ 100 ms	P
7	RISE TIME	230VAC: 100 ms (Max)	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	230VAC/ 50 ms	P
8	HOLD UP TIME	230VAC: 30 ms (TYP)	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	230VAC/ 10 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	TEST: <5 %	P
10	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 230 VAC O/P: FULL / Min LOAD 90% DUTY / 1KHZ Ta: 25°C	600 mVp-p	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	176VAC~264 VAC)	I/P:TESTING O/P:FULL LOAD Ta:25°C	125 V~264V	P
			I/P: LOW-LINE-3V= 173 V HIGH-LINE+15%=300 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: 176 VAC ~ 264 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	65 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	66 %	P
4	INPUT CURRENT	230V/ 0.25 A (TYP) 115V/ 0.5 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.22 A/ 230 VAC I = 0.42 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 30 A (TYP) 115V/ 15 A (TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 15 A/ 230 VAC I = 8 A/ 115 VAC	P
6	LEAKAGE CURRENT	< 0.5 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.2 mA N-FG: 0.2 mA	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 150 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	115 %/ 230 VAC 115 %/ 115 VAC Foldback Current Limiting	P
2	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE Foldback Current Limiting	P

## ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : S-15-5 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 230VAC O/P: FULL LOAD Ta= 23.8 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230VAC O/P: FULL LOAD Ta= 46.4 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P: 230 VAC O/P: 120 % LOAD Ta:25°C	TEST : OK	P
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: 80 % LOAD Ta= -10 °C	TEST : OK	P
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE	I/P: 272 VAC O/P:FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK	P
5	TEMPERATURE COEFFICIENT	± 0.02 % (0-50°C)	I/P: 230 VAC O/P:FULL 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	SPECICATION	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°C	I/P-O/P: 3.5 mA I/P-FG: 1.5 mA O/P-FG: 0.5 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°C	I/P-O/P: 12G Ω I/P-FG: 12G Ω O/P-FG: 12G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	10 mΩ	P

### M.T.B.F & LIFE CYCLE CALCULATION

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 15 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 51128 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 20506 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 522.1K HRS			P



COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) <b>Peak Voltage</b>	Q 1 Rated 2SC3150 : 800V 3A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 650 V (2) 650 V (3) 650 V	P
2	Diode <b>Peak Voltage</b>	D 5 Rated BYV118 : 45 V 10 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 40 V (2) 40 V (3) 40 V	P
3	Clamp Diode <b>Peak Voltage</b>	D 2 Rated FR107 : 1KV 1A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 800 V (2) 800 V	P
4	<b>Input Capacitor Voltage</b>	C 5 Rated : 47 u / 200V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta:25°C	(1) 180 V (2) 180 V (3) 180 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2003/4/1	RD SMAPLE	PASS	VINCENT TSENG	MAX LIN
2003/5/2	PRODUCT SMAPLE A304B28	PASS	VINCENT TSENG	MAX LIN
2003/6/22	PRODUCT SMAPLE A306A21	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023