

## MODEL : RS-50-15

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 120 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 25 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1:13.5 V~ 16.5 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	12.15V~17.28 V/ 230VAC 12.15V~17.28 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1%~ -1% (Max)	I/P: 115 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.1%~0.1%	P
4	LINE REGULATION	V1: 0.5%~ -0.5% (Max)	I/P: 115 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0%~ 0%	P
5	LOAD REGULATION	V1: 0.5%~ -0.5% (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.1%~ 0%	P
6	SET UP TIME	230VAC/ 500 ms (Max) 115VAC/ 1200 ms (Max)	I/P: 230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 196 ms 115VAC/ 179 ms	P
7	RISE TIME	230VAC/ 20ms (Max) 115VAC/ 30ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 7 ms 115VAC/ 7 ms	P
8	HOLD UP TIME	230VAC/ 50 ms(TYP) 115VAC/ 10 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 73 ms 115VAC/ 15 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: 1500 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	165 mVp-p	P

## INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	62 V~ 264 V	P
			I/P: LOW-LINE-3V= 87 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	47 HZ ~ 63 HZ NO DAMAGE OSC	I/P: 88VAC ~ 264VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	86 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	86.862 %	P
4	INPUT CURRENT	230V/ 0.8 A(TYP) 115V/ 1.3 A(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.6 A/ 230 VAC I = 1 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 36 A(TYP) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I = 27 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.4 mA N-FG:0.4 mA	P
7	No load power consumption	<0.5W	I/P: 230VAC O/P:NO LOAD Ta:25°C	0.23W	P

## PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110 %~ 150 %	I/P: 230 VAC I/P: 115 VAC O/P: TESTING Ta:25°C	132%/ 230 VAC 128%/ 115 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1:17.25V~ 20.25 V	I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25°C	18.3V/ 230 VAC 18.3V/ 115 VAC Hiccup Model	P
3	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE Hiccup Mode	P

## ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																												
1	TEMPERATURE RISE TEST	MODEL : RS-50-24 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 230VAC O/P: FULL LOAD Ta=29.3 °C 2. HIGH AMBIENT BURN-IN : 9 HRS I/P: 230VAC O/P: FULL LOAD Ta=46.5 °C			P																																																												
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P: 230 VAC O/P: 127 % LOAD Ta:25°C	TEST : OK	P																																																												
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230VAC O/P: 100% LOAD Ta= -20 °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: 272VAC O/P: FULL LOAD Ta= 50°C HUMIDITY= 95 %R.H	TEST : OK	P																																																												
5	TEMPERATURE COEFFICIENT	± 0.03 %(0~50°C)	I/P: 230 VAC O/P: FULL LOAD	± 0.01 %(0~50°C)	P																																																												
6	VIBRATION TEST	1 Set Operating at I/P: 230 VAC NO LOAD (1) Waveform: Sine Wave (2) Frequency: 10~500Hz (3) Sweep Time: 10min/sweep cycle (4) Acceleration: 5G (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 KVAC/min I/P-FG: 2 KVAC/min O/P-FG: 0.5 KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C	I/P-O/P: 3.2 mA I/P-FG: 2.6 mA O/P-FG: 2.1 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: 4G Ω I/P-FG: 4G Ω O/P-FG: 6G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	20 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50046939 UL: File NO : E183223			P

### E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS	P
2	CONDUCTION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	P
4	E.S.D	EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	E.F.T	EN61000-4-4 INDUSTRY INPUT: 2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 INDUSTRY L-N :2KV L,N-PE:4KV	I/P: 230 VAC/50HZ O/P:FULL 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	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 55 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 514386 I/P: 230 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 117557		HRS HRS	P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 228KHRS			P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor ( D to S) or (C to E) Peak Voltage	Q 1 Rated K2545 : 600 V 6 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) 470 V (2) 530 V (3) 584 V	P
2	Diode Peak Voltage	D 55 Rated BYQ28X-200 : 200 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) 92 V (2) 112 V (3) 106 V	P
3	Clamp Diode Peak Voltage	D 1 Rated S3L60 : 600 V 4 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 512 V (2) 510 V	P
4	Input Capacitor Voltage	C 5 Rated RUBYCON : 100 u / 400 V 105°C	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) 374 V (2) 380V (3) 380V	P
5	Control IC Voltage Test	U 1 Rated 1203 : 16 V	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) 13 V (2) 12.8 V (3) 12.6 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/3/3	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/6/1	PRODUCT SAMPLE A403C10	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023