

MODEL : RT-50A

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 80 mVp-p (Max) V2: 120 mVp-p (Max) V3: 100 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 5 mVp-p (Max) V2: 11 mVp-p (Max) V3: 11 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	4.6V-5.8 V/230VAC 4.6V-5.8 V/115VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -2 %~ +2 % (Max) V2: -6 %~ +6 % (Max) V3: -2 %~ +2 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0.12 %~ -0.37 % V2: 5.64 %~ -2.44 % V3: 0.26 %~ -0.12 %	P
4	LINE REGULATION	V1: -0.5 %~ +0.5 % (Max) V2: -1.5 %~ +1.5 % (Max) V3: -0.5 %~ +0.5 % (Max)	I/P: 115 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 % V2: -0.05 %~ 0.37 % V3: 0 %~ 0 %	P
5	LOAD REGULATION	V1: -1 %~ +1 % (Max) V2: -3 %~ +3 % (Max) V3: -1 %~ +1 % (Max)	I/P: 230 VAC O/P:FULL -MIN LOAD Ta:25°C	V1: -0.24 %~ 0 % V2: 0.1 %~ 0.43 % V3: 0 %~ 0 %	P
6	CROSS REGULATION	V1: -1 %~ +1 % (Max) V2: -3 %~ +3 % (Max) V3: -1 %~ +1 % (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0 %~ -0.12 % V2: -0.91 %~ 1.01 % V3: -0.12 %~ 0 %	P
7	SET UP TIME	230 VAC/ 500 ms (Max) 115 VAC/ 1200 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 54 ms 115 VAC/ 55 ms	P
8	RISE TIME	230VAC/ 20ms (Max) 115VAC/ 30 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 10 ms 115 VAC/ 10 ms	P
9	HOLD UP TIME	230 VAC/ 50 ms (TYP) 115 VAC/ 10 ms(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 75 ms 115 VAC/ 14 ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: <5 %	P
11	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	83 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	62 V~ 264 V	P
			I/P: LOW-LINE-3V=85 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: 88 VAC ~ 264 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	77 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	78.46 %	P
4	INPUT CURRENT	230 V/ 0.8 A(TYP) 115 V/ 1.3 A(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.58 A/ 230 VAC I = 0.9 A/ 115 VAC	P
5	INRUSH CURRENT	230 V/36 A(TYP) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I = 26.73 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.35 mA N-FG: 0.39 mA	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	118 %/230VAC 122 %/115VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 5.75 V~ 6.75 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	6.26V/ 230 VAC 6.26V/ 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 : RT-50A			
		1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 25.8 °C			
		2. HIGH AMBIENT BURN-IN : 60 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 36.6 °C			
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 125% Ta:25°C	TEST : OK	P
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: 100 % LOAD Ta= -25 °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: 230 VAC O/P: FULL 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: FULL LOAD	± 0.018 % (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

NO	Position	P/N	ROOM AMBIENT Ta= 25.8 °C	HIGH AMBIENT Ta= 36.6 °C
1	LF1	TF-484 LS	59.2°C	68.2°C
2	D56	SR360 3A/60V FMS	79.8°C	89.0°C
3	BD1	D3SB60 4A/600V SHI	74.9°C	85.6°C
4	C10	22U/50V NIPPON 105°C	55.5°C	65.7°C
5	D50	F10SC6 10A/60V SHI	80.9°C	90.2°C
6	Q1	K2628 6A/600V SYNYO	80.5°C	91.9°C
7	D1	EGP20J 2A/600V ZOW	89.0°C	100°C
8	C5	100U/400V RUB 105°C	52.3°C	62.7°C
9	T1 COIL	TF-1017 LS	74.4°C	84.2°C
10	D55	MBR1545CT 15A/45V ON	81.9°C	91.3°C
11	T1 CORE	TF-1017 LS	68.4°C	78.6°C
12	RG1	7905 1A/5V ON	74.2°C	84.1°C
13	C56	2200U/16V RUB 105°C	71.8°C	80.8°C
14	C53	1200U/16V RUB 105°C	65.8°C	74.8°C
15	C51	470U/25V RUB 105°C YXG	67.9°C	77.0°C

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3.0 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: 3.52 mA I/P-FG: 3.93 mA O/P-FG: 2.52 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: 15G Ω I/P-FG: 11G Ω O/P-FG: 16G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	8mΩ	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 56 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 75208 HRS I/P: 230VAC O/P:FULL LOAD Ta= 40 °C LIFE TIME= 30126 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 169.2K HRS			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 K2628 : 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) 420 V (2) 542 V (3) 550 V	P
2	Diode Peak Voltage	D55 Rated MBR1545CT : 45 V 15 A D50 Rated F10SC6 : 60V 10A D56 Rated SR360 : 60V 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) 30.6 V (2) 34.2 V (3) 30 V (1) 39.6 V (2) 42.6 V (3) 39.8 V (1) 46.4 V (2) 50.6 V (3) 48.4 V	P
3	Clamp Diode Peak Voltage	D1 Rated EGP20J : 600 V 2A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 534 V (2) 528 V	P
4	Input Capacitor Voltage	C 5 Rated : 150 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) 394 V (2) 386V (3) 374V	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 (4) 13V (5) 10.6V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/3/2	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/10/14	PRODUCT SAMPLE W0409B16	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023