

MODEL : RPT-60A

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 80 mVp-p (Max) V2: 80 mVp-p (Max) V3: 80 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 15 mVp-p (Max) V2: 12 mVp-p (Max) V3: 13 mVp-p (Max)	P
2	OUTPUT VOLTAGE TOLERANCE	V1: 3 %- -2 % (Max) V2: 6 %- -6 % (Max) V3: 9 %- -8 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.12 %- -0.12 % V2: 1.5 %- -1.5 % V3: 4.2 %- -4.8 %	P
3	LINE REGULATION	V1: 0.5 %- -0.5 % (Max) V2: 1 %- -1 % (Max) V3: 1 %- -1 % (Max)	I/P: 115 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %- 0 % V2: 0.3 %- -0.3 % V3: 0.12 %- -0.12 %	P
4	LOAD REGULATION	V1: 1.5 %- -1.5 % (Max) V2: 2 %- -2 % (Max) V3: 5 %- -7 % (Max)	I/P: 230 VAC O/P:FULL -MIN LOAD Ta:25°C	V1: 0.12 %- -0.12 % V2: 0.5 %- -0.5 % V3: 0.4 %- -3.5 %	P
5	CROSS REGULATION	V1: 1.5 %- -1.5 % (Max) V2: 2 %- -2 % (Max) V3: 5 %- -7 % (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0 %- 0 % V2: 1.25 %- -1.25 % V3: 2.9 %- -4.8 %	P
6	SET UP TIME	230VAC: 200 ms (Max) 115 VAC: 200 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 161 ms 115VAC/ 138 ms	P
7	RISE TIME	230VAC: 15 ms (Max) 115VAC: 15 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 6 ms 115VAC/ 5 ms	P
8	HOLD UP TIME	230VAC: 70 ms (TYP) 115VAC: 14 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 85 ms 115VAC/ 17 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	128 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	63 V~264V	P
			I/P: LOW-LINE-3V= 87V 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: 90VAC ~ 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	78.3 %	P
4	INPUT CURRENT	230V/ 0.7 A (TYP) 115V/ 1.1 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.61 A/ 230 VAC I = 0.93 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 60 A (TYP) 115V/ 30 A (TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 57 A/ 230 VAC I = 28 A/ 115 VAC	P
6	LEAKAGE CURRENT	< 150 uA/ 264 VAC for earth leakage current	I/P: 264 VAC O/P:Min LOAD Ta:25°C	L-FG: 117 uA N-FG: 117 uA	P
		< 100 uA/264 VAC for touch leakage current	I/P: 264 VAC O/P:Min LOAD Ta:25°C	L-V+ : 79 uA L-V-: 79 uA N-V+: 79 uA N-V-: 79 uA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	115%~ 150%	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	135 %/ 230 VAC 131 %/ 115 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 5.75V~ 6.75V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	6.5 V/ 230 VAC 6.5 V/ 115 VAC Shunt down Re- power ON	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 : RPT-60A 1. ROOM AMBIENT BURN-IN : 1HRS I/P: 230VAC O/P: FULL LOAD Ta= 29.5 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230VAC O/P: FULL LOAD Ta= 39.6°C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: V1=5.7A V2=2.5A V3=0.55A 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= -20°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: 272 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	± 0.01%(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: 4 KVAC/min I/P-FG: 2 KVAC/min O/P-FG: 1.5 KVAC/min	I/P-O/P: 4.2 KVAC/min I/P-FG: 2.4KVAC/min O/P-FG: 1.8 KVAC/min Ta:25°C	I/P-O/P: 2.24 mA I/P-FG: 1.57 mA O/P-FG: 1.59 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: 30 GΩ I/P-FG: 30 GΩ O/P-FG: 30 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	3 mΩ	P
4	APPROVAL	TUV: Certificate NO : R 50112371 UL: File NO : E227340			P

E.M.C TEST

NO	TEST ITEM	SPECICATION	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 EN55011 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 EN55011 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 MEDICAL AIR:8KV / Contact:6KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	E.F.T	EN61000-4-4 MEDICAL INPUT: 2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 MEDICAL L-N :1KV L,N-PE:2KV	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 C105 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 77256 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 26543 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 677.8K 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	Q1 Rated K2545 : 600V 6 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Output Short Ta:25°C	(1) 486 V (2) 500 V	P
2	Diode Peak Voltage	D100 Rated MBR20H100 : 100V 20A D200 Rated YG805C010R : 100V 20 A D300 Rated 31DQ10 : 100V 3A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2)Output Short Ta:25°C	(1) 54 V (2) 48 V (1) 72 V (2) 67 V (1) 51 V (2) 50 V	P
3	Clamp Diode Peak Voltage	D1 Rated EGP20J : 600V 2A	I/P:High-Line +3V = 267 V O/P: (1) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 470 V	P
4	Input Capacitor Voltage	C5 Rated : 100u / 400V/ 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) 378 V (2) 380 V (3) 378 V	P
5	Control IC Voltage Test	U1 Rated 1230D : 18V	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) 13.8 V (2) 13.1 V (3) 13.8 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2006/4/3	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2006/6/2	PRODUCT SAMPLE W0605A33	PASS	VINCENT TSENG	MAX LIN
2006/8/16	PRODUCT SAMPLE W0607C20	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023