

MODEL : RQ-125B

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: 80 mVp-p (Max) V4: 80 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 4 mVp-p (Max) V2: 22 mVp-p (Max) V3: 12 mVp-p (Max) V4: 1 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	4.66V~ 5.57 V/230VAC 4.66V~ 5.57 V/115VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -2 %~ 2 % (Max) V2: 8 %~ -3 % (Max) V3: 6 %~ -10 % (Max) V4: 5 %~ -5 % (Max)	I/P: 176 VAC / 264 VAC O/P:FULL/ MIN 40 % LOAD Ta:25°C	V1: 0.3 %~ -0.3 % V2: 1.8 %~ -1.8 % V3: 4.4 %~ -4.4 % V4: 0.1 %~ -0.1 %	P
4	LINE REGULATION	V1:0.5 %~ 0.5 % (Max) V2: -1 %~ 1 % (Max) V3: -1 %~ 1 % (Max) V4: -1 %~ 1 % (Max)	I/P: 176 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 % V2: 0.05 %~ -0.05 % V3: 0.2 %~ -0.2 % V4: 0 %~ 0 %	P
5	LOAD REGULATION	V1: -1 %~ 1 % (Max) V2: -3 %~ 3 % (Max) V3: -6 %~ 6 % (Max) V4: -2 %~ 2 % (Max)	I/P: 230 VAC O/P:FULL -MIN LOAD Ta:25°C	V1: 0.3 %~ -0.3 % V2: 0.8 %~ -0.8 % V3: 1.3 %~ -1.3 % V4: 0.1 %~ -0.1 %	P
6	CROSS REGULATION	V1: -1 %~ 1 % (Max) V2: -3 %~ 3 % (Max) V3: -6 %~ 6 % (Max) V4: -2 %~ 2 % (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0.2 %~ -0.2 % V2: 1.8 %~ -1.8 % V3: 4 %~ -4 % V4: 0.1 %~ -0.1 %	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/ 113 ms 115 VAC/ 116 ms	P
8	RISE TIME	230 VAC/ 20 ms (Max) 115 VAC/ 30 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 8 ms 115 VAC/ 8 ms	P
9	HOLD UP TIME	230 VAC/ 20 ms (TYP) 115 VAC/ 10 ms(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 40 ms 115 VAC/ 37 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	121 mVp-p	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	176 VAC~ 264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	116 V~ 264 V	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	47 HZ ~ 63 HZ NO DAMAGE OSC	I/P: 176 VAC ~ 264 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	79 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	80.1 %	P
4	INPUT CURRENT	230 V/ 2 A (TYP) 115 V/ 3 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 1.4 A/230 VAC I = 2.4 A/115 VAC	P
5	INRUSH CURRENT	230 V/ 50 A (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I = 32 A/230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.5 mA N-FG: 0.5 mA	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110 %~ 150 %	I/P: 230 VAC I/P: 115 VAC O/P: TESTING Ta:25°C	123%/230VAC 123%/115VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 5.75 V~ 6.75V	I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25°C	5.8V/ 230 VAC 5.8V/ 115 VAC Hiccup Model	P
3	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC 132VAC 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 : RQ-125B 1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P: 230 VAC O/P: Full LOAD Ta= 27.4 °C 2. HIGH AMBIENT BURN-IN : HRS I/P: 230 VAC O/P: Full LOAD Ta= 56.1 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 121 % LOAD 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 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	± 0.03 %(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: 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: 5.72 mA I/P-FG: 4.89 mA O/P-FG: 3.5 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: 3 G Ω I/P-FG: 3 G Ω O/P-FG: 3 G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	7 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50046942 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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 62 IS THE MOST CRITICAL COMPONENT	I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 92221 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 27433 HRS		P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 203.1K 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 2SK2082 : 900 V 9 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) 532 V (2) 536 V (3) 692 V	P
2	Diode Peak <b>Voltage</b>	D 60 Rated D83-004 : 40 V 30 A  D 55 Rated BYQ-28X-200: 200V 10A  D 50 Rated BYQ28X-200:200V 10A  D 52 Rated HER303: 200V 3A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short  (1)Full Load Turn on (2) Full Load (3)Output Short  (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C  (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 26.2 V (2) 30 V (3) 26.2 V  (1) 40.2 V (2) 47.2 V (3) 40.8 V  (1) 27.2 V (2) 27.2 V (3) 27.2 V  (1) 69.6 V (2) 104 V (3) 82.8 V	P
3	Clamp Diode Peak <b>Voltage</b>	C 7 Rated HER208: 1K V 2A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 576 V (2) 576 V	P
4	<b>Input Capacitor Voltage</b>	C 5 Rated : 330 u / 200 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) 194 V (2) 192 V (3) 191 V	P
5	<b>Control IC Voltage Test</b>	U 1 Rated 1203P : 16V	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) 14.3 V (2) 13.5 V (3) 14 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/2/18	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/8/2	PRODUCT SAMPLE A407B37	PASS	VINCENT TSENG	MAX LIN
2004/8/30	PRODUCT SAMPLE A408B19	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023