MODEL：RT-85D

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 80 mVp-p (Max) V2:150 mVp-p (Max) V2:120 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	V1: 16 mVp-p (Max) V2: 22 mVp-p (Max) V2: 10 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 4.75V ~ 5.5V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	4.68V~ 5.58 V 230VAC 4.68V~ 5.58 V 115VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -2 %~ 2 % (Max) V2:-5 %~ 5 % (Max) V3:-6 %~ 6 % (Max)	I/P: 100 VAC / 264VAC O/P:FULL/ MIN % LOAD Ta:25℃	V1: 0.12 %~ -0.12 % V2: 2 %~ -2 % V3: 1.6 %~ -1.6 %	P
4	LINE REGULATION	V1:-0.5 %~ 0.5 % (Max) V2:-1 %~1 % (Max) V3:-1 %~1 % (Max)	I/P: 100 VAC ~ 264 VAC O/P:FULL LOAD Ta:25℃	V1: 0.12 %~ -0.12 % V2: 0.13 %~ -0.13 % V3: 0.1 %~ -0.1 %	P
5	LOAD REGULATION	V1: -1 %~ 1 % (Max) V2:-3 %~ 3 % (Max) V3:-6 %~ 6 % (Max)	I/P:230 VAC O/P:FULL ~MIN LOAD Ta:25℃	V1: 0.12 %~ -0.12 % V2: 1.4 %~ -0.4 % V3: 0.8 %~ -0.8 %	P
6	CROSS REGULATION	V1: -1 %~ 1 % (Max) V2:-3 %~ 3 % (Max) V3:-6 %~ 6 % (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25℃	V1: 0.12 %~ -0.12 % V2: 1.9 %~ -0.8 % V3: 1.6 %~ -0.8 %	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℃	230 VAC/ 191ms 115 VAC/ 904 ms	P
8	RISE TIME	230 VAC/ 20 ms (Max) 115 VAC/ 30 ms (Max)	I/P:230VAC I/P:115 VAC O/P:FULL LOAD Ta:25℃	230 VAC/ 10 ms 115 VAC/ 10 ms	P
9	HOLD UP TIME	230 VAC/ 100 ms (TYP) 115 VAC/ 18 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230 VAC/ 122 ms 115 VAC/ 24 ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST: <5 %	P
11	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25℃	96 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℃	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: 100 VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	P
3	EFFICIENCY	79 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	81.4 %	P
4	INPUT CURRENT	230 V/ 1.5 A (TYP) 115 V/ 2.5 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I = 0.96 A/ 230VAC I = 1.64 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 40A (TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I = 40.6 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 264 VAC O/P:Min LOAD Ta:25℃	L-FG: 0.5 mA N-FG: 0.5 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℃	125 %/230VAC 125 %/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℃	5.83 V/ 230 VAC 5.83 V/ 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℃	NO DAMAGE Hiccup Mode	P

ENVIRONMENT TEST

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECICATION</th><th>TEST CONDITION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>1</td><td>TEMPERATURE RISE TEST</td><td colspan="3">MODEL：RT-85A
1. ROOM AMBIENT BURN-IN：1.5 HRS
I/P:230 VAC O/P:100% LOAD Ta= 30.1 ℃
2. HIGH AMBIENT BURN-IN： 14 HRS
I/P:230 VAC O/P:100% LOAD Ta= 43.9 ℃

<table>
<tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 30.1 ℃</th><th>HIGH AMBIENT Ta= 43.9 ℃</th></tr>
<tr><td>1</td><td>LF1</td><td>TF479</td><td>78.8℃</td><td>89.1℃</td></tr>
<tr><td>2</td><td>BD1</td><td>D3SB80 4A/800V</td><td>74℃</td><td>85.5℃</td></tr>
<tr><td>3</td><td>D4</td><td>HER208 2A/1KV</td><td>75℃</td><td>86.2℃</td></tr>
<tr><td>4</td><td>ED1</td><td>P6KE300A</td><td>86.8℃</td><td>97.9℃</td></tr>
<tr><td>5</td><td>D1</td><td>HER208 2A/1KV</td><td>90.3℃</td><td>101.7℃</td></tr>
<tr><td>6</td><td>U1</td><td>IC1203</td><td>88.1℃</td><td>100.6℃</td></tr>
<tr><td>7</td><td>Q1</td><td>2SK1358 9A/900V</td><td>87.5℃</td><td>100.2℃</td></tr>
<tr><td>8</td><td>T1CORE</td><td>TF1047</td><td>88.5℃</td><td>100.1℃</td></tr>
<tr><td>9</td><td>T1COIL</td><td>TF1047</td><td>93.6℃</td><td>104.8℃</td></tr>
<tr><td>10</td><td>D55</td><td>BYQ28X-200 10A/200V</td><td>105.2℃</td><td>115.8℃</td></tr>
<tr><td>11</td><td>D60</td><td>MBR3060PT 25A/60V</td><td>106.3℃</td><td>117.1℃</td></tr>
<tr><td>12</td><td>D50</td><td>BYQ284-206 10A/200V</td><td>89.4℃</td><td>100.7℃</td></tr>
<tr><td>13</td><td>C62</td><td>2200u/16V RUB 105℃</td><td>79.8℃</td><td>82.0℃</td></tr>
<tr><td>14</td><td>C56</td><td>1000u/25V RUB 105℃</td><td>69.1℃</td><td>82.1℃</td></tr>
<tr><td>15</td><td>R70</td><td>47Ω/2W</td><td>95.7℃</td><td>107.3℃</td></tr>
</table></td><td>P</td></tr>
<tr><td>2</td><td>OVER LOAD BURN-IN TEST</td><td>NO DAMAGE
1 HOUR (MIN)</td><td>I/P: 230 VAC
O/P: 130% LOAD
Ta:25℃</td><td>TEST：OK</td><td>P</td></tr>
<tr><td>3</td><td>LOW TEMPERATURE
TURN ON TEST</td><td>TURN ON AFTER 2 HOUR</td><td>I/P: 230 VAC
O/P: 100 % LOAD
Ta= -25 ℃</td><td>TEST：OK</td><td>P</td></tr>
<tr><td>4</td><td>HIGH HUMIDITY
HIGH TEMPERATURE
HIGH VOLTAGE
TURN ON TEST</td><td>AFTER 12 HOURS
IN CHAMBER ON
CONTROL 40 ℃
NO DAMAGE</td><td>I/P: 272 VAC
O/P:FULL LOAD
Ta= 40 ℃
HUMIDITY= 95 %R.H</td><td>TEST：OK</td><td>P</td></tr>
<tr><td>5</td><td>TEMPERATURE
COEFFICIENT</td><td>± 0.03 %(0~50℃)</td><td>I/P: 230 VAC
O/P:FULL LOAD</td><td>± 0.01 %(0~50℃)</td><td>P</td></tr>
<tr><td>6</td><td>VIBRATION TEST</td><td colspan="2">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℃</td><td>TEST： OK</td><td>P</td></tr>
</table>

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℃	I/P-O/P: 4.93 mA I/P-FG: 4.29 mA O/P-FG: 3.11 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℃	I/P-O/P: 480M Ω I/P-FG: 1.2GΩ O/P-FG: 1.5GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	50 mΩ	P
4	APPROVAL	TUV: Certificate NO ：R50045826 UL: File NO ：E183223			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℃	PASS	P
2	CONDUCTION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25℃	PASS	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25℃	PASS	P
4	E.S.D	EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	P
5	E.F.T	EN61000-4-4 INDUSTRY INPUT: 2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	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℃	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 62 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 ℃ LIFE TIME= 59951 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 40 ℃ LIFE TIME= 23701 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 215K 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 2SK2082 : 800 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℃	(1) 412 V (2) 534 V (3) 660 V	P
2	Diode Peak **Voltage**	D 60 Rated MBR3060PT : 60 V 30 A D55 Rated BYQ-28X-200 : 200 V 10 A D50 Rated BUQ-28X- 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 (1)Full Load Turn on (2) Full Load (3)Output Short (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	 (1) 50 V (2) 47.8 V (3) 51 V (1) 183 V (2) 175 V (3) 183 V (1) 81.2 V (2) 70.4 V (3) 81.2 V	P
3	Clamp Diode Peak **Voltage**	D 1 Rated HER208 : 1K V 2 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25℃	(1) 522 V (2) 540 V	P
4	**Input Capacitor Voltage**	C 5 Rated Rubycon: 150 u / 400 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℃	(1) 374 V (2) 374 V (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 (4) Output Short Ta:25℃	(1) 12.8 V (2) 12.8 V (3) 9.64 V (4) 12.8 V	p

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2003/12/30	RD SMAPLE	PASS	VICENT TSENG	MAX LIN
2007/9/27	PRODUCT SMAPLE W0709C21	PASS	VICENT TSENG	MAX LIN

2003/12/12 A50-F023