MODEL：RCP-1000-48

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 300 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25℃	V1: 43 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 46.3 V~ 49.7V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	46.05 V~ 51.1 V/ 230 VAC 46.05 V~ 51.1 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1 %~ -1 % (Max)	I/P: 100 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25℃	V1: 0.5 %~ -0.5 %	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 100VAC ~ 264 VAC O/P:FULL LOAD Ta:25℃	V1: 0.02 %~ -0.02 %	P
5	LOAD REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25℃	V1: 0.02 %~ -0.02 %	P
6	SET UP TIME	230VAC: 1000 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 80 ms	P
7	RISE TIME	230VAC: 60 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 30 ms	P
8	HOLD UP TIME	230VAC: 16 ms (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 20 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST: <5 %	P
10	DYNAMIC LOAD	V1: 4800 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25℃	656 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℃	81.2V~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: 90 VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	P
3	POWER FACTOR	0.96 / 230 VAC(TYP) 0.96 / 115 VAC(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	PF= 0.974 / 230 VAC PF= 0.998 / 115 VAC	P
4	EFFICIENCY	89 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	89.1 %	P
5	INPUT CURRENT	230V/ 5.5 A (TYP) 115V/ 11 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I = 5.11 A/ 230 VAC I = 10.1 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 50 A (TYP) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	I = 45 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 1.1 mA / 230 VAC	I/P: 264 VAC (SINGLE UNIT) O/P:Min LOAD Ta:25℃	L-FG: 0.8 mA N-FG: 0.8 mA	P
		< 3.5 mA / 230 VAC	I/P: 264 VAC (RACK SYSTEM) O/P:Min LOAD Ta:25℃	L-FG: 2.9 mA N-FG: 2.9 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 125 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25℃	119 %/ 230 VAC 119 %/ 115 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 52.8 V~ 64.8 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	59 V/ 230 VAC 59 V/ 115 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW1: 75 ± 5℃ O.T.P. TSW2: 85 ± 5℃ O.T.P. NO DAMAGE	I/P: 230 VAC O/P:FULL LOAD	O.T.P. Active Shut down o/p voltage，recovers automatically after temperature goes down	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P:FULL LOAD Ta:25℃	NO DAMAGE Constant Current Limiting	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	FAN LOCK TEST	FAN LOCK :POWER OFF FAN UNLOCK :POWER ON	I/P: 230 VAC O/P:FULL LOAD	FAN LOCK :POWER OFF FAN UNLOCK :POWER ON	P
2	FAN SPEED CONTROL	Fan Voltage : NO LOAD:8.7V ± 1V 100% LOAD:11.8V ± 0.6V	I/P: 230 VAC O/P:TESTING Ta:25℃	Fan Voltage: NO LOAD: 8.17V 100% LOAD: 11.83V	P
3	REMOTE ON/OFF	ON/OFF~ -S SHORT : POWER ON ON/OFF~ -S OPEN : POWER OFF that is shown inFunction Manual 1.1 (SPEC)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	ON/OFF& -S SHORT : POWER ON ON/OFF& -S OPEN : POWER OFF	P
4	AC OK Signal	Sink current 10 mA 1. When Input voltage ≥ 82V ± 4V: AC_OK ~-S : 0~0.5V Output ON/LED ON 2. When input voltage ≤ 82V ± 4V: AC_OK ~-S : 4.5~5.5V Output OFF / LED OFF that is shown in Function Manual 4.1 (SPEC)	I/P: TESTING O/P:FULL LOAD Ta:25℃	1.Input voltage ≥ 84 V : AC_OK ~-S : 0V LED ON / PSU Output ON 2. Input voltage ≤ 83 V : AC_OK ~-S: 4.86 V LED OFF / PSU Output OFF	P
5	DC OK Signal	Sink current 10 mA 1. When output voltage ≥ 80% ± 5%: DC_OK ~-S : 0~0.5V Output ON / LED ON 2. When output voltage ≤ 80% ± 5%: DC_OK ~-S : 4.5~5.5V Output OFF / LED OFF that is shown in Function Manual 4.1 (SPEC)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	1. Output voltage ≥ 80 %: DC_OK ~-S: 0.2V LED ON / PSU Output ON 2. Output voltage ≤ 78 %: DC_OK ~-S: 4.57 V LED OFF / PSU Output ON	P
6	REMOTE SENSE	>0.5V that is shown in Function Manual 2.1 (SPEC)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	>0.5V	P
7	OUTPUT VOLTAGE PROGRAMMABLE	Adjustment of output voltage is possible between 90 %~110 % of rated output Connecting a resistor externally that is shown in Function Manual 3.3 (SPEC)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	External Resistor 90% Voltage= 1.1MΩ 110% Voltage= 13 KΩ	P
8	OVER TEMP ALARM	1.T-OK : When the TSW1 and TSW2 short : T-ALARM ~-S : 0~0.5V Output ON 2. T-ALARM: When the TSW1 or TSW2 open : T-ALARM ~-S : 4.5V~5.5V Output OFF that is shown in Function Manual 4.1 (SPEC)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	1. T-ALARM ~-S : 0 V PSU Output ON 2. T-ALARM ~-S:4.91V PSU Output OFF	P
9	AUX ILIRY POWER (AUX)	5V @ 0.3A (4.5V~5.3V)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	4.94 V	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：RCP-1000-24
1. ROOM AMBIENT BURN-IN：1.5HRS
I/P: 230VAC O/P: FULL LOAD Ta= 36.5℃
2. HIGH AMBIENT BURN-IN：3HRS
I/P: 230VAC O/P: FULL LOAD Ta= 53.7℃

<table>
<tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 36.5 ℃</th><th>HIGH AMBIENT Ta= 53.7℃</th></tr>
<tr><td>1</td><td>D2</td><td>CSD010060A 10A/600V</td><td>38.7℃</td><td>51.9℃</td></tr>
<tr><td>2</td><td>TSW1</td><td>ST-75</td><td>44.6℃</td><td>58.4℃</td></tr>
<tr><td>3</td><td>U1</td><td>IR1150S IR</td><td>40.7℃</td><td>54.3℃</td></tr>
<tr><td>4</td><td>Q1</td><td>IRFP37N50A 36A/500V IR</td><td>45.7℃</td><td>59.4℃</td></tr>
<tr><td>5</td><td>BD1</td><td>D25XB60 25A/600V SHI</td><td>49.1℃</td><td>62.6℃</td></tr>
<tr><td>6</td><td>L2</td><td>TF-1457 LS</td><td>59.2℃</td><td>72.4℃</td></tr>
<tr><td>7</td><td>LF1</td><td>TR-690</td><td>47.6℃</td><td>61.2℃</td></tr>
<tr><td>8</td><td>C7</td><td>220U/450V HU 105℃</td><td>38.8℃</td><td>52.4℃</td></tr>
<tr><td>9</td><td>D901</td><td>HER208 2A/1KV REC</td><td>44.1℃</td><td>59.2℃</td></tr>
<tr><td>10</td><td>T2 COIL</td><td>TF-1558 LS</td><td>47.5℃</td><td>61.3℃</td></tr>
<tr><td>11</td><td>Q906</td><td>2SK2611 9A/900V TOS</td><td>61.1℃</td><td>74.9℃</td></tr>
<tr><td>12</td><td>L100</td><td>TF-1455 LS</td><td>62.7℃</td><td>76.8℃</td></tr>
<tr><td>13</td><td>D101</td><td>S60SC6M 60A/60V SHI</td><td>63.9℃</td><td>77.8℃</td></tr>
<tr><td>14</td><td>U2</td><td>UCC28220 TI</td><td>42.4℃</td><td>58.1℃</td></tr>
<tr><td>15</td><td>TSW2</td><td>ST-85</td><td>58.1℃</td><td>71.8℃</td></tr>
<tr><td>16</td><td>C110</td><td>1000U/35V NCC 105℃ KY</td><td>56.1℃</td><td>69.7℃</td></tr>
<tr><td>17</td><td>C75</td><td>470U/25V RUB 105℃ YXG</td><td>40.1℃</td><td>54.2℃</td></tr>
<tr><td>18</td><td>U507</td><td>LM35DM NATIONAL</td><td>46.1℃</td><td>59.4℃</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: 118% 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= -20℃</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 50 ℃
NO DAMAGE</td><td>I/P: 272 VAC
O/P:FULL LOAD
Ta= 50℃
HUMIDITY= 95 %R.H</td><td>TEST：OK</td><td>P</td></tr>
<tr><td>5</td><td>TEMPERATURE
COEFFICIENT</td><td>± 0.02 %(0~50℃)</td><td>I/P: 230 VAC
O/P:FULL LOAD</td><td>± 0.003 %(0~50℃)</td><td>P</td></tr>
<tr><td>6</td><td>VIBRATION TEST</td><td colspan="2">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℃</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: 0.7 KVDC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.84 KVDC/min Ta:25℃	I/P-O/P: 12.63 mA I/P-FG: 8.81 mA O/P-FG: 0.002 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: 16 GΩ I/P-FG: 30 GΩ O/P-FG: 8 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	7 mΩ	P
4	APPROVAL	TUV: Cerificate NO ：R50094068 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 Test by certified Lab	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25℃	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℃	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	RCP-1000-24 : SUPPOSE C110 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 ℃ LIFE TIME= 777098 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 ℃ LIFE TIME= 176323 HRS			P
2	MTBF	Conducted by Parts Stress Analysis Prediction 840.8K hrs min. Telcordia SR-332 (Bellcore) ; 107.4K hrs min. MIL-HDBK-217F (25°C)			P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) **Peak Voltage**	Q900 Rated 2SK2082 : 900 V 9A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Output Short Ta:25℃	(1) 835 V (2) 800 V	P
2	Diode Peak **Voltage**	D102 Rated ESAD92-02 : 200V 20A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2)Output Short Ta:25℃	(1) 196 V (2) 109 V	P
3	Clamp Diode Peak **Voltage**	D900 Rated BYM26E : 1KV 2.3 A	I/P:High-Line +3V = 267 V O/P: (1) Dynamic Load 90%Duty/1KHz Ta:25℃	(1) 820 V	P
4	**Input Capacitor Voltage**	C5 Rated : 220u / 450V/ 105℃	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) 381 V (2) 390 V (3) 390 V	P
5	**Control IC Voltage Test**	U2 Rated UCC28220D : 15 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) 14 V (2) 14.2 V (3) 14 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2006/9/8	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2006/11/14	PRODUCT SAMPLE W0610A30	PASS	VINCENT TSENG	MAX LIN
2007/2/16	PRODUCT SAMPLE W0701B31	PASS	VINCENT TSENG	MAX LIN
2007/5/16	PRODUCT SAMPLE W0704D55	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023