

MODEL : RSP-1500-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 33 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 10V~13.5 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	9.25 V~ 13.9 V/ 230 VAC 9.25 V~ 13.9 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°C	V1: 0.2 %~ -0.2 %	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 100 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0.05 %~ -0.05 %	P
5	LOAD REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.1 %~ -0.1 %	P
6	SET UP TIME	230VAC: 1500 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 698 ms	P
7	RISE TIME	230VAC: 100 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 52 ms	P
8	HOLD UP TIME	230VAC: 10 ms (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 12 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: 1200 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	833 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	100VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	89V~264V	P
			I/P: LOW-LINE-3V= 97 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	47HZ ~63 HZ NO DAMAGE OSC	I/P: 90 VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK	P
3	POWER FACTOR	0.95 / 230 VAC(TYP) 0.98 / 115 VAC(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	PF= 0.96 / 230 VAC PF= 0.99 / 115 VAC	P
4	EFFICIENCY	87 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	88%	P
5	INPUT CURRENT	230V/ 8 A (TYP) 115V/ 17 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 7.78 A/ 230 VAC I = 15.93 A/ 115 VAC	P
6	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 = 53 A/ 230 VAC I = 26 A/ 115 VAC	P
7	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.8 mA N-FG: 0.8 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 135 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	120 %/ 230 VAC 120 %/ 115 VAC Constant Current Limiting unit will shut down o/p voltage after 5sec Re-power on to recover	P
2	OVER VOLTAGE PROTECTION	CH1: 13.8 V~ 16.8 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	15.9 V/ 230 VAC 15.9 V/ 115 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW2 : 95 ± 5°C O.T.P. NO DAMAGE	I/P: 264 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°C	NO DAMAGE Constant Current Limiting unit will shut down o/p voltage after 5sec Re-power on to recover	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT														
1	AUXILIARY POWER (AUX)	12V @ 0.1A (Only for Remote ON/OFF control)	I/P: 230 VAC O/P:0.1A LOAD Ta:25℃	12.47V	P														
2	REMOTE CONTROL	Table1.1 Fig1.2(a)(b)(c) Specification of Remote ON/OFF	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	<table><tr><td colspan="2">Connection Method</td><td>Fig1.2(a)</td><td>Fig1.2(b)</td><td>Fig1.2(c)</td></tr><tr><td rowspan="2">SW Logic</td><td>Output on</td><td>SW Open</td><td>SW Open</td><td>SW Close</td></tr><tr><td>Output off</td><td>SW Close</td><td>SW Close</td><td>SW Open</td></tr></table>	Connection Method		Fig1.2(a)	Fig1.2(b)	Fig1.2(c)	SW Logic	Output on	SW Open	SW Open	SW Close	Output off	SW Close	SW Close	SW Open	P
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3	ALARM SIGNAL OUTPUT	<table><tr><th colspan="2">Table2.1 Explanation of alarm</th></tr><tr><td>Pin</td><td>POK Alarm</td></tr><tr><td>P OK</td><td rowspan="2">The signal is "LOW"when ther power supply is above 65%of the rated output voltage</td></tr><tr><td>P OK GND</td></tr><tr><td></td><td>The signal turns to be "HIGH" when ther power supply is under 65%of the rated output voltage</td></tr></table>	Table2.1 Explanation of alarm		Pin	POK Alarm	P OK	The signal is "LOW"when ther power supply is above 65%of the rated output voltage	P OK GND		The signal turns to be "HIGH" when ther power supply is under 65%of the rated output voltage	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	<table><tr><th>Output of alarm</th></tr><tr><td>Good:Low (0.5V max at 10mA)</td></tr><tr><td>Fail:High or open (50V 10mA max)</td></tr></table>	Output of alarm	Good:Low (0.5V max at 10mA)	Fail:High or open (50V 10mA max)	P		
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4	OUTPUT VOLTAGE TRIM	Adjustment of output voltage is possible between 75~100% of the rated output by following	I/P: 230 VAC O/P:NOL LOAD Ta:25℃	70%~100%	P														
5	CURRENT SHARING	PSU1-PSU2 < 10%	I/P: 230 VAC O/P:FULL/50% LOAD Ta:25℃	<table><tr><td>O/P:100% PSU1: 1776 W PSU2: 1736 W</td></tr><tr><td>O/P:50% PSU1: 889 W PSU2: 853 W</td></tr></table>	O/P:100% PSU1: 1776 W PSU2: 1736 W	O/P:50% PSU1: 889 W PSU2: 853 W	P												
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6	REMOTE SENSE	>0.3V	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	> 0.3 V	P														

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																																
1	TEMPERATURE RISE TEST	MODEL : RSP-1500-24 1. ROOM AMBIENT BURN-IN : 2HRS I/P: 230VAC O/P: FULL LOAD Ta= 29 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P: 230VAC O/P: FULL LOAD Ta= 51.4 °C <table><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 29°C</th><th>HIGH AMBIENT Ta= 51.4°C</th></tr><tr><td>1</td><td>LF2</td><td>TR-541</td><td>41.7°C</td><td>63.3°C</td></tr><tr><td>2</td><td>BD2</td><td>GBJ2506 25A/600V LT</td><td>54.0°C</td><td>75.1°C</td></tr><tr><td>3</td><td>D2</td><td>30ETH06 30A/600V IR</td><td>38.8°C</td><td>58.9°C</td></tr><tr><td>4</td><td>L1 COIL</td><td>TF-1198</td><td>44.6°C</td><td>65.3°C</td></tr><tr><td>5</td><td>Q7</td><td>20N60C3 20A/650V INF</td><td>35.4°C</td><td>58.6°C</td></tr><tr><td>6</td><td>U3</td><td>TOP244P</td><td>51.2°C</td><td>74.2°C</td></tr><tr><td>7</td><td>U2</td><td>UC3855BDW</td><td>42.5°C</td><td>63.9°C</td></tr><tr><td>8</td><td>L900 COIL</td><td>TF-1201</td><td>69.4°C</td><td>92.1°C</td></tr><tr><td>9</td><td>T900 COIL</td><td>TF-1313</td><td>55.7°C</td><td>77.1°C</td></tr><tr><td>10</td><td>Q901</td><td>24N50 24A/500V FAIR</td><td>65.5°C</td><td>95.4°C</td></tr><tr><td>11</td><td>D900</td><td>BYC5-600 5A/600V PH</td><td>53.2°C</td><td>76.0°C</td></tr><tr><td>12</td><td>L102</td><td>TR-593</td><td>42.0°C</td><td>65.8°C</td></tr><tr><td>13</td><td>C900</td><td>150U/450V RUB 105°C MXG</td><td>44.2°C</td><td>67.8°C</td></tr><tr><td>14</td><td>U100</td><td>UC2895DW</td><td>41.9°C</td><td>66.1°C</td></tr><tr><td>15</td><td>TSW2</td><td>ST-105</td><td>67.8°C</td><td>100.7°C</td></tr></table>			NO	Position	P/N	ROOM AMBIENT Ta= 29°C	HIGH AMBIENT Ta= 51.4°C	1	LF2	TR-541	41.7°C	63.3°C	2	BD2	GBJ2506 25A/600V LT	54.0°C	75.1°C	3	D2	30ETH06 30A/600V IR	38.8°C	58.9°C	4	L1 COIL	TF-1198	44.6°C	65.3°C	5	Q7	20N60C3 20A/650V INF	35.4°C	58.6°C	6	U3	TOP244P	51.2°C	74.2°C	7	U2	UC3855BDW	42.5°C	63.9°C	8	L900 COIL	TF-1201	69.4°C	92.1°C	9	T900 COIL	TF-1313	55.7°C	77.1°C	10	Q901	24N50 24A/500V FAIR	65.5°C	95.4°C	11	D900	BYC5-600 5A/600V PH	53.2°C	76.0°C	12	L102	TR-593	42.0°C	65.8°C	13	C900	150U/450V RUB 105°C MXG	44.2°C	67.8°C	14	U100	UC2895DW	41.9°C	66.1°C	15	TSW2	ST-105	67.8°C	100.7°C	P
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 119 % 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	± 0.05 %(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	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℃	I/P-O/P: 10.01 mA I/P-FG: 8.25 mA O/P-FG: 15.5 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℃	I/P-O/P: 1 GΩ I/P-FG: 1 GΩ O/P-FG: 2 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	9 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50063850 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℃	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 LIGHT 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 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	P
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :1KV L,N-PE:2KV	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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 114 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 ℃ LIFE TIME= 109840 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 ℃ LIFE TIME= 188843 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 62.6K 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	Q900 Rated FQA24N50 : 500V 24 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 394 V (2) 394 V (3) 394 V	P
2	Diode Peak Voltage	D102 Rated S60SC6M : 60V 60A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 46 V (2) 43 V (3) 48 V	P
3	Input Capacitor Voltage	C15 Rated : 150 u / 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 (4)Burn in 1hour Ta:25℃	(1) 464 V (2) 462 V (3) 406 V (4) 392 V	P
4	Control IC Voltage Test	U100 Rated UCC2895W : 18 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) 12.9 V (2) 12.6 V (3) 12.6 V	P
5	PFC Power Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated 20N60C3 : 600V 20 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 406 V (2) 436 V (3) 406 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2005/4/19	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2005/7/29	PRODUCT SAMPLE W0505A40	PASS	VINCENT TSENG	MAX LIN
2005/9/3	PRODUCT SAMPLE W0507C27	PASS	VINCENT TSENG	MAX LIN
2005/9/8	PRODUCT SAMPLE W0508B50	PASS	VINCENT TSENG	MAX LIN
2005/11/21	PRODUCT SAMPLE W0511A35	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023