MODEL：RS-25-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 120 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	V1: 13 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 10.8 V~ 13.2 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	10.34V~ 13.8 V/ 230VAC 10.34V~ 13.8 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1 %~ -1 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25℃	V1: 0.05 %~ -0.05 %	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 115VAC ~ 264VAC O/P:FULL LOAD Ta:25℃	V1: 0.05 %~ 0 %	P
5	LOAD REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25℃	V1: 0 %~ 0 %	P
6	SET UP TIME	230VAC/ 1200 ms (Max) 115VAC/ 2200 ms (Max)	I/P: 230VAC I/P: 230VAC O/P:FULL LOAD Ta:25℃	230VAC/ 798 ms 115VAC/ 818 ms	P
7	RISE TIME	230VAC/ 20ms (Max) 115VAC/ 30ms (Max)	I/P: 230VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 4 ms 115VAC/ 4 ms	P
8	HOLD UP TIME	230VAC/ 50 ms (Min) 115VAC/ 12 ms (Min)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230VAC/ 86 ms 115VAC/ 18 ms	P
9	OVER/UNDERSHOOT TEST	＜±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST: ＜5 %	P
10	DYNAMIC LOAD	V1: 1200 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25℃	115 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25℃	58V~ 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: 88VAC ~ 264VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	P
3	EFFICIENCY	79 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	80.5 %	P
4	INPUT CURRENT	230V/ 0.4 A (Max) 115V/ 0.7 A (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I = 0.31A/ 230 VAC I = 0.47 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 36 A (Max) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	I = 28 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25℃	L-FG: 0.3 mA N-FG: 0.3 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110 %~ 180 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25℃	164%/ 230 VAC 148%/ 115 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 13.8 V~ 16.2 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25℃	15V/ 230 VAC 15V/ 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： RS-25-5
1. ROOM AMBIENT BURN-IN： 1 HRS
I/P: 230 VAC O/P: FULL LOAD Ta=25.4 ℃
2. HIGH AMBIENT BURN-IN： 3 HRS
I/P: 230 VAC O/P: FULL LOAD Ta= 49.5 ℃

<table>
<tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 25.4 ℃</th><th>HIGH AMBIENT Ta= 49.5 ℃</th></tr>
<tr><td>1</td><td>BD1</td><td>KBJ208G 2A/800V LT</td><td>59.6℃</td><td>81.4℃</td></tr>
<tr><td>2</td><td>T1 CORE</td><td>TF-992 LS</td><td>70.1℃</td><td>90.5℃</td></tr>
<tr><td>3</td><td>T1 COIL</td><td>TF-992 LS</td><td>73.9℃</td><td>93.4℃</td></tr>
<tr><td>4</td><td>LF1</td><td>LF560</td><td>61.7℃</td><td>83.7℃</td></tr>
<tr><td>5</td><td>C57</td><td>1000U/16V 105℃ KY</td><td>72.2℃</td><td>91.6℃</td></tr>
<tr><td>6</td><td>D55</td><td>MBR1545CT 15A/45V ON</td><td>77.9℃</td><td>98.3℃</td></tr>
<tr><td>7</td><td>ZD1</td><td>P6KE200 PAN</td><td>76.8℃</td><td>97.0℃</td></tr>
<tr><td>8</td><td>C10</td><td>10U/50V NIPPON 105℃</td><td>54.9℃</td><td>73.9℃</td></tr>
<tr><td>9</td><td>C5</td><td>56U/400V RUB 105℃ AXF</td><td>58.1℃</td><td>79.6℃</td></tr>
<tr><td>10</td><td>Q1</td><td>K2545 6A/600V TOS</td><td>69.3℃</td><td>90.9℃</td></tr>
<tr><td>11</td><td>D1</td><td>EGP20J 2A/600V ZOW</td><td>67.6℃</td><td>89.4℃</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: 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 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>± 0.03 %(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: 2.57 mA I/P-FG: 2.11 mA O/P-FG: 1.77 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: 3G Ω I/P-FG: 3G Ω O/P-FG: 3G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	4 mΩ	P
4	APPROVAL	TUV: Certificate NO ：R50046664 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	SUPPOSE C 57 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 ℃ LIFE TIME= 74545 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 50 ℃ LIFE TIME= 18281 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 309.7K 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 K2545 : 600 V 6 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 472 V (2) 540 V (3) 540 V	P
2	Diode Peak **Voltage**	D 55 Rated BYQ28X-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 Ta:25℃	(1) 45.8 V (2) 58.2 V (3) 50.2 V	P
3	Clamp Diode Peak **Voltage**	D 1 Rated EGP20J : 600 V 2 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25℃	(1) 458 V (2) 468 V	P
4	**Input Capacitor Voltage**	C 5 Rated : 56 u 400 V 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) 390 V (2) 374 V (3) 374 V	P
5	**Control IC Voltage Test**	U Rated SG684 : 30V	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) 16.9 V (2) 16.9 V (3) 15.4 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/5/21	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/8/2	PRODUCT SAMPLE A406A38	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023