

MODEL : RS-100-3.3
OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 80 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 31 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 3.2 V~ 3.5 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	2.98V~ 3.55 V/ 230VAC 2.98V~ 3.55 V/ 115VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -3 %~ 3 % (Max)	I/P: 100 VAC / 264 VAC O/P:FULL/ 0 % LOAD Ta:25°C	V1: 0.3 %~ -0.3 %	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 %~ 0 %	P
5	LOAD REGULATION	V1: -2 %~ 2 % (Max)	I/P:230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.2%~ -0.2 %	P
6	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	230VAC/ 165 ms 115VAC/ 303 ms	P
7	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	230VAC/ 1 ms 115VAC/ 1 ms	P
8	HOLD UP TIME	230 VAC/ 50 ms (Min) 115 VAC/ 10 ms (Min)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 91 ms 115VAC/ 16 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: 660 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	292 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~ 264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	66 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: 88 VAC ~ 264 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	74 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	74.5%	P
4	INPUT CURRENT	230 V/ 1.5 A (Max) 115 V/ 2.5 A (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.9 A/ 230 VAC I = 1.4 A/ 115 VAC	P
5	INRUSH CURRENT	230 V/ 40 A (Max) COLD START	I/P:230 VAC O/P:FULL LOAD Ta:25°C	I = 28 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P:254 VAC O/P:Min LOAD Ta:25°C	L-FG: 1.1 mA N-FG: 1.1 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℃	117 %/ 230 VAC 120 %/ 115 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 4.45 V~ 3.8 V	I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25℃	3.87 V/ 230 VAC 3.87 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

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT																																																																																
1	TEMPERATURE RISE TEST	MODEL : RS-100-5 1. ROOM AMBIENT BURN-IN : 2 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 28.5 °C 2. HIGH AMBIENT BURN-IN : 14 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 43.4 °C <table><thead><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 28.5 °C</th><th>HIGH AMBIENT Ta= 43.4 °C</th></tr></thead><tbody><tr><td>1</td><td>BD1</td><td>D3SB80 4A/800V SHI</td><td>69.0°C</td><td>81.1°C</td></tr><tr><td>2</td><td>LF1</td><td>LF-058</td><td>69.3°C</td><td>80.2°C</td></tr><tr><td>3</td><td>C5</td><td>150U/400V HU4 105°C</td><td>61.4°C</td><td>72.9°C</td></tr><tr><td>4</td><td>R2</td><td>330Ω /2W R/MO</td><td>97.8°C</td><td>105.1°C</td></tr><tr><td>5</td><td>ZD1</td><td>P6KE300A PAN JIT</td><td>80.8°C</td><td>90.9°C</td></tr><tr><td>6</td><td>D1</td><td>HER208 2A/1KV REC</td><td>84.4°C</td><td>94.6°C</td></tr><tr><td>7</td><td>Q1</td><td>2SK2082 9A/800V FUJI</td><td>75.9°C</td><td>88.1°C</td></tr><tr><td>8</td><td>U1</td><td>1203 ON</td><td>84.6°C</td><td>95.4°C</td></tr><tr><td>9</td><td>C10</td><td>100U/35V RUB 105°C YXF</td><td>79.9°C</td><td>89.8°C</td></tr><tr><td>10</td><td>T1 CORE</td><td>TF-1040 LS</td><td>85.3°C</td><td>94.5°C</td></tr><tr><td>11</td><td>T1 COIL</td><td>TF-1040 LS</td><td>84.5°C</td><td>94.6°C</td></tr><tr><td>12</td><td>L60</td><td>TR-401</td><td>95.2°C</td><td>105.8°C</td></tr><tr><td>13</td><td>C64</td><td>2200U/16V NCC 105°C KY</td><td>75.0°C</td><td>85.2°C</td></tr><tr><td>14</td><td>D60</td><td>MBR3060PT 25A/60V GI</td><td>89.2°C</td><td>99.3°C</td></tr><tr><td>15</td><td>D61</td><td>MBR3060PT 25A/60V GI</td><td>90.4°C</td><td>101.5°C</td></tr></tbody></table>			NO	Position	P/N	ROOM AMBIENT Ta= 28.5 °C	HIGH AMBIENT Ta= 43.4 °C	1	BD1	D3SB80 4A/800V SHI	69.0°C	81.1°C	2	LF1	LF-058	69.3°C	80.2°C	3	C5	150U/400V HU4 105°C	61.4°C	72.9°C	4	R2	330Ω /2W R/MO	97.8°C	105.1°C	5	ZD1	P6KE300A PAN JIT	80.8°C	90.9°C	6	D1	HER208 2A/1KV REC	84.4°C	94.6°C	7	Q1	2SK2082 9A/800V FUJI	75.9°C	88.1°C	8	U1	1203 ON	84.6°C	95.4°C	9	C10	100U/35V RUB 105°C YXF	79.9°C	89.8°C	10	T1 CORE	TF-1040 LS	85.3°C	94.5°C	11	T1 COIL	TF-1040 LS	84.5°C	94.6°C	12	L60	TR-401	95.2°C	105.8°C	13	C64	2200U/16V NCC 105°C KY	75.0°C	85.2°C	14	D60	MBR3060PT 25A/60V GI	89.2°C	99.3°C	15	D61	MBR3060PT 25A/60V GI	90.4°C	101.5°C	P
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 117% 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=-25 °C	TEST : OK	P																																																																																
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 40°C NO DAMAGE	I/P: 272 VAC O/P:FULL LOAD Ta= 40°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: 4.54 mA I/P-FG: 4.18 mA O/P-FG: 2.03 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: 1 GΩ I/P-FG: 2 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°C	6 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50045826 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	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 64 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 124134 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 40 °C LIFE TIME= 60728 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 260.8K 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	Q1 Rated 2SK2082 : 800V 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) 580 V (2) 642 V (3) 680 V	P
2	Diode Peak Voltage	D61 Rated D83-004 : 40 V 30 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) 28.8 V (2) 27.8 V (3) 28.8 V	P
3	Clamp Diode Peak Voltage	D1 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°C	(1) 558 V (2) 564 V	P
4	Input Capacitor Voltage	C5 Rated RUBYCON : 150u /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°C	(1) 364 V (2) 370 V (3) 370 V	P
5	Control IC Voltage Test	U1 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 Ta:25°C	(1) 12.7 V (2) 12.7 V (3) 12.7 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/1/19	RD SMAPLE	PASS	VICENT TSENG	MAX LIN
2004/7/7	PRODUCT SAMPLE A404B33	PASS	VICENT TSENG	MAX LIN
2004/8/16	PRODUCT SAMPLE A407C27	PASS	VICENT TSENG	MAX LIN

2003/12/12 A50-F023