

MODEL : RS-35-15

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 120 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 8 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 13.5 V~ 16.5 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	12.16V~ 17.19V/ 230VAC 12.16V~ 17.19 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1 %~ -1 % (Max)	I/P: 88 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.05%~-0.05%	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 88VAC ~ 264VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 %	P
5	LOAD REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.05%~ 0%	P
6	SET UP TIME	230VAC/ 500 ms (Max) 115VAC/ 1200 ms (Max)	I/P: 230VAC I/P: 230VAC O/P:FULL LOAD Ta:25°C	230VAC/ 197 ms 115VAC/ 302 ms	P
7	RISE TIME	230VAC/ 30ms (Max) 115VAC/ 30ms (Max)	I/P: 230VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 6 ms 115VAC/ 6 ms	P
8	HOLD UP TIME	230VAC/ 50 ms (Min) 115VAC/ 10 ms (Min)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 98 ms 115VAC/ 20 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: 1500 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	154 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	58 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: 88VAC ~ 264VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	83% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	84.1 %	P
4	INPUT CURRENT	230V/ 0.45 A (Max) 115V/ 0.8 A (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.43 A/ 230 VAC I = 0.67 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 36 A (Max) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I = 30 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.4 mA N-FG: 0.4 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℃	128 %/ 230 VAC 121 %/ 115 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1:17.25 V~ 20.25 V	I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta:25℃	19 V/ 230 VAC 19 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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																	
1	TEMPERATURE RISE TEST	MODEL : RS-35-5 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 30.4 °C 2. HIGH AMBIENT BURN-IN : 14 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 43.1 °C <table><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta=30.4°C</th><th>HIGH AMBIENT Ta= 43.1 °C</th></tr><tr><td>1</td><td>LF1</td><td>TF-484</td><td>56.2°C</td><td>66.2°C</td></tr><tr><td>2</td><td>R5</td><td>47K/2W R/MO</td><td>81.8°C</td><td>90.9°C</td></tr><tr><td>3</td><td>BD1</td><td>KBP208G 2A/800V LT</td><td>60.9°C</td><td>71.1°C</td></tr><tr><td>4</td><td>C5</td><td>82U/400V HU4 105°C</td><td>52.3°C</td><td>63.0°C</td></tr><tr><td>5</td><td>T1 CORE</td><td>TF-998 LS</td><td>76.3°C</td><td>87.5°C</td></tr><tr><td>6</td><td>T1 COIL</td><td>TF-998LS</td><td>74.9°C</td><td>86.3°C</td></tr><tr><td>7</td><td>D55</td><td>BYQ28X-200 10A/200V PH</td><td>83.5°C</td><td>94.4°C</td></tr><tr><td>8</td><td>U1</td><td>1203 ON</td><td>56.4°C</td><td>68.9°C</td></tr><tr><td>9</td><td>C10</td><td>100U/35V RUB 105°C YXF</td><td>69.0°C</td><td>81.9°C</td></tr><tr><td>10</td><td>D1</td><td>HER306 3A/600V REC</td><td>76.3°C</td><td>89.4°C</td></tr><tr><td>11</td><td>Q1</td><td>K2545 6A/600V TOS</td><td>63.9°C</td><td>77.2°C</td></tr><tr><td>12</td><td>C56</td><td>1000U/16V NCC 105°C KY</td><td>71.4°C</td><td>82.0°C</td></tr></table>			NO	Position	P/N	ROOM AMBIENT Ta=30.4°C	HIGH AMBIENT Ta= 43.1 °C	1	LF1	TF-484	56.2°C	66.2°C	2	R5	47K/2W R/MO	81.8°C	90.9°C	3	BD1	KBP208G 2A/800V LT	60.9°C	71.1°C	4	C5	82U/400V HU4 105°C	52.3°C	63.0°C	5	T1 CORE	TF-998 LS	76.3°C	87.5°C	6	T1 COIL	TF-998LS	74.9°C	86.3°C	7	D55	BYQ28X-200 10A/200V PH	83.5°C	94.4°C	8	U1	1203 ON	56.4°C	68.9°C	9	C10	100U/35V RUB 105°C YXF	69.0°C	81.9°C	10	D1	HER306 3A/600V REC	76.3°C	89.4°C	11	Q1	K2545 6A/600V TOS	63.9°C	77.2°C	12	C56	1000U/16V NCC 105°C KY	71.4°C	82.0°C	P
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 142 % 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 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	± 0.03 %(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	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°C	I/P-O/P: 2.5 mA I/P-FG: 2.3 mA O/P-FG: 1.44 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: 1.6G Ω I/P-FG: 1.6G Ω O/P-FG: 2.5G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	5 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50046884 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°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 56 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P: FULL LOAD Ta= 25 °C LIFE TIME= 96985 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 45 °C LIFE TIME= 28062 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 249K 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°C	(1) 442 V (2) 476 V (3) 470 V	P
2	Diode Peak Voltage	D 55 Rated BYQ28X-200 : 200V 10 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) 75.2 V (2) 90 V (3) 72.8 V	P
3	Clamp Diode Peak Voltage	D1 Rated HER306 : 600 V 3 A	I/P: High-Line +3V = 267 V O/P: (1) Full Load (2) Dynamic Load 90%Duty/1KHz Ta: 25°C	(1) 468 V (2) 468 V	P
4	Input Capacitor Voltage	C 5 Rated : 82 u 400 V 105 °C	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) 386 V (2) 374 V (3) 374 V	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 Ta: 25°C	(1) 12.8 V (2) 12.8 V (3) 12.4 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/4/29	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/8/2	PRODUCT SAMPLE A405B06	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023