

MODEL : RS-75-12

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: 12 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 10.8V~ 13.2 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	10.37V~ 13.75 V/ 230VAC 10.37V~ 13.75 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°C	V1: 0.2 %~ -0.2 %	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 115 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 %	P
5	LOAD REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.05 %~ -0.05 %	P
6	SET UP TIME	230VAC/ 500 ms (Max) 115VAC/ 1200 ms (Max)	I/P: 230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 182 ms 115VAC/ 172 ms	P
7	RISE TIME	230VAC/ 30ms (Max) 115VAC/ 30ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 11 ms 115VAC/ 10 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°C	230VAC/ 77 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: 1200 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	152 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°C	70 V ~ 264 V	P
			I/P: LOW-LINE-3V= 87 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	81 % (TYP)	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	82.1 %	P
4	INPUT CURRENT	230V/1.2 A (Max) 115V/ 2 A (Max)	I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C	I = 0.8 A/ 230 VAC I = 1.4 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 40 A (Max) COLD START	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	I = 25 A/ 230 VAC	P
6	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P: Min LOAD Ta: 25°C	L-FG: 0.46 mA N-FG: 0.46 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110%~ 150 %	I/P: 230 VAC I/P: 115 VAC O/P: TESTING Ta: 25°C	117 %/ 230 VAC 117 %/ 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°C	14.7 V/ 230 VAC 14.7 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°C	NO DAMAGE Hiccup Mode	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																	
1	TEMPERATURE RISE TEST	MODEL : RS-75-24 1. ROOM AMBIENT BURN-IN : 1HRS I/P: 230 VAC O/P:FULL LOAD Ta=29.3 °C 2. HIGH AMBIENT BURN-IN : HRS I/P: 230 VAC O/P: FULL LOAD Ta=45.6 °C <table><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 29.3 °C</th><th>HIGH AMBIENT Ta= 45.6 °C</th></tr><tr><td>1</td><td>LF1</td><td>TF-479</td><td>60.3°C</td><td>71.1°C</td></tr><tr><td>2</td><td>C5</td><td>150U/400V HU4 105°C</td><td>56.9°C</td><td>69.3°C</td></tr><tr><td>3</td><td>BD1</td><td>D3SB80 4A/800V SHI</td><td>63.2°C</td><td>75.2°C</td></tr><tr><td>4</td><td>R2</td><td>39K/2W R/MO</td><td>82.0°C</td><td>93.3°C</td></tr><tr><td>5</td><td>D1</td><td>EGP20J 2A/600V ZOW</td><td>75.3°C</td><td>87.7°C</td></tr><tr><td>6</td><td>D56</td><td>BYQ28X-200 10A/200V PH</td><td>68.4°C</td><td>81.2°C</td></tr><tr><td>7</td><td>Q1</td><td>K2545 6A/600V TOS</td><td>70.8°C</td><td>84.9°C</td></tr><tr><td>8</td><td>U1</td><td>1203 ON</td><td>70.1°C</td><td>82.6°C</td></tr><tr><td>9</td><td>T1 CORE</td><td>TF-1028 LS</td><td>74.9°C</td><td>86.7°C</td></tr><tr><td>10</td><td>C10</td><td>100U/35V RUB 105°C YXF</td><td>64.4°C</td><td>77.6°C</td></tr><tr><td>11</td><td>T1 COIL</td><td>TF-1028 LS</td><td>80.5°C</td><td>92.6°C</td></tr><tr><td>12</td><td>C58</td><td>330U/35V NCC 105°C KY</td><td>55.8°C</td><td>68.4°C</td></tr></table>			NO	Position	P/N	ROOM AMBIENT Ta= 29.3 °C	HIGH AMBIENT Ta= 45.6 °C	1	LF1	TF-479	60.3°C	71.1°C	2	C5	150U/400V HU4 105°C	56.9°C	69.3°C	3	BD1	D3SB80 4A/800V SHI	63.2°C	75.2°C	4	R2	39K/2W R/MO	82.0°C	93.3°C	5	D1	EGP20J 2A/600V ZOW	75.3°C	87.7°C	6	D56	BYQ28X-200 10A/200V PH	68.4°C	81.2°C	7	Q1	K2545 6A/600V TOS	70.8°C	84.9°C	8	U1	1203 ON	70.1°C	82.6°C	9	T1 CORE	TF-1028 LS	74.9°C	86.7°C	10	C10	100U/35V RUB 105°C YXF	64.4°C	77.6°C	11	T1 COIL	TF-1028 LS	80.5°C	92.6°C	12	C58	330U/35V NCC 105°C KY	55.8°C	68.4°C	P
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 132 % 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: 3.56 mA I/P-FG: 3.23 mA O/P-FG: 2.18 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: 10GΩ I/P-FG: 8GΩ O/P-FG: 19GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	4 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50045775 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 58 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 341779 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 83119 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 265K 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 K2628 : 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) 512 V (2) 560 V (3) 562 V	P
2	Diode Peak Voltage	D 56 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°C	(1) 68.8 V (2) 74.8 V (3) 71.2 V	P
3	Clamp Diode Peak Voltage	D 1 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) 538 V (2) 538 V	P
4	Input Capacitor Voltage	C 5 Rated RUBYCON : 150 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) 392 V (2) 372 V (3) 372 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) 12.9 V (2) 12.7 V (3) 11.2 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2003/12/16	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/6/1	PRODUCT SAMPLE A403C11	PASS	VINCENT TSENG	MAX LIN
2004/8/16	PRODUCT SAMPLE A407C09	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023