MODEL：TS-1500-224

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RATED POWER (TYP)	1500W	IP: 24VDC Ta:25℃	1436 W	P
2	WAVEFORM	True sine wave (THD<3%)	IP: 24VDC OP: FULL LOAD/NO LOAD Ta:25℃	FULL LOAD: 1.02 % NO LOAD: 0.86%	P
3	FREQUENCY	60HZ ± 1HZ	IP: 24VDC OP: FULL LOAD/NO LOAD Ta:25℃	FULL LOAD: 59.99HZ NO LOAD: 60.02HZ	P
4	AC REGULATION (TYP)	3%~-3%	IP: 24VDC OP: FULL LOAD/NO LOAD Ta:25℃	0.3% ~ -0.3%	P
5	SAVING MODE TO NORMAL	≤3S (5W~25W)	IP: 24VDC OP:NO LOAD Ta:25℃	OK	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	DC CURRENT (TYP)	75A	IP: 24VDC OP:NO LOAD Ta:25℃	66A	P
2	NO LOAD DISSIPATION	＜18W @ saving mode	IP: 24VDC OP:NO LOAD Ta:25℃	9W	P
3	OFF MODE DRAW CURRENT	<1mA	IP: SW OFF OP:NO LOAD Ta:25℃	0.03mA	P
4	VOLTAGE RANGE (TYP)	21VDC~30VDC	IP: TESTING OP:NO LOAD Ta:25℃	20.2 VDC~ 29.8 VDC	P
5	EFFICIENCY(TYP)	90%	IP: 24VDC OP: 1000W Ta:25℃	91.4%	P

BATTERY INPUT PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	BAT LOW ALARM	22.5VDC ± 4%	IP: TESTING OP: NO LOAD Ta:25℃	22.2 V	P

2	BAT LOW SHUT DOWN	21VDC ± 4%	IP: TESTING OP: NO LOAD Ta:25℃	21 V Shunt down Recovery	P
3	BAT POLARITY	BY INTERNAL FUSE	IP: 24VDC OP: NO LOAD Ta:25℃	OK	P

OUTPUT PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER TEMPERATURE	40℃~45℃ at full load , Reset: re-power on	IP: 24VDC OP: FULL LOAD Ta:25℃	O.T.P Active Reset: re-power on	P
2	OUTPUT SHORT	Shut-off , Reset: re-power on	IP: 24VDC OP: FULL LOAD Ta:25℃	Shut-off , Reset: re-power on	P
3	OVER LOAD (INVERTER)	100%~115% ± 5% LOAD 180sec 115%~150%± 5% LOAD 10sec Shunt down Re-power ON	IP: 24VDC OP: TESTING Ta:25℃	104 %/ 180 SEC 116 %/ 10 SEC Shut down Re-power ON	P
4	OVER LOAD (AC LINE)	CIRCUIT BREAKER PROTECTION	IP: 220VAC OP: TESTING Ta:25℃	CIRCUIT BREAKER PROTECTION	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL：TS-1500-212 1. ROOM AMBIENT BURN-IN：2HRS I/P: 12 VDC O/P:FULL LOAD Ta= 27.55 ℃ 2. HIGH AMBIENT BURN-IN：1 HRS I/P: 12 VDC O/P: FULL LOAD Ta= 41.6 ℃			P

			NO / Position / ROOM AMBIENT Ta= 27.5℃ / HIGH AMBIENT Ta= 41.6℃			
			1 C301 54.2℃ 66.6℃			
			2 C311 60.0℃ 73.8℃			
			3 PCB 85.5℃ 103.7℃			
			4 L301 92.8℃ 108.4℃			
			5 D413 54.5℃ 65.5℃			
			6 T302 78.4℃ 90.9℃			
			7 C416 50.2℃ 61.8℃			
			8 L13 74.1℃ 85.9℃			
			9 C7 32.7℃ 44.3℃			
			10 L1 40.7℃ 55.7℃			
			11 CT1 28.1℃ 41.7℃			
			12 Q328 61.3℃ 73.7℃			
			13 RTH3 59.2℃ 71.5℃			
			14 Q11 56.3℃ 67.4℃			
			15 U301 45.6℃ 55.5℃			
			16 Q602 39.6℃ 49.6℃			
			17 D601 42.3℃ 52.0℃			
			18 RG602 37.1℃ 46.1℃			
			19 RG601 42.0℃ 51.6℃			
			20 U509 31.0℃ 38.6℃			
			21 Q702 32.9℃ 44.8℃			
			22 D806 34.8℃ 47.1℃			
			23 T701 33.8℃ 46.6℃			
			24 Q802 36.4℃ 49.5℃			
			25 C811 32.7℃ 45.9℃			
			26 內環溫 43.9℃ 53.8℃			
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	IP: 12VDC OP:FULL LOAD Ta= -10℃	TEST：OK	P
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 40℃ NO DAMAGE	IP: 13.6VDC OP:FULL LOAD Ta:= 40℃ HUMIDITY= 95 %R.H	TEST：OK	P
5	VIBRATION TEST	1 Carton & 1 Set (1) Waveform: Sine Wave (2) Frequency:10~500Hz (3) Sweep Time:10min/sweep cycle (4) Acceleration:3G (5) Test Time:1 hour in each axis (X.Y.Z) (6) Ta:25℃		TEST：OK	P

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	BAT I/P-AC I/P: 3 KVAC/min BAT I/P-AC O/P: 3 KVAC/min AC I/P-FG: 1.5 KVAC/min	BAT I/P-AC I/P: 3.3 KVAC/min BAT I/P-AC O/P: 3.3 KVAC/min AC I/P-FG: 1.8 KVAC/min Ta:25℃	BAT I/P-AC I/P: 9.05 mA BAT I/P-AC O/P: 9.05 mA AC I/P-FG: 9.12 mA NO DAMAGE	P
2	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25℃	21 mΩ	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 B	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	TS--1500-112 : SUPPOSE C812 IS THE MOST CRITICAL COMPONENT I/P: 12VDC O/P:FULL LOAD Ta= 25℃ LIFE TIME= 420711 HRS I/P: 12VDC O/P:FULL LOAD Ta= 40℃ LIFE TIME= 136874 HRS			P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	DC TO DC Power Transistor (D to S) or (C to E) **Peak Voltage**	Q324 Rated STP80NF10 : 100V 80A	I/P:27 VDC O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 112 V (2) 74 V (3) 74 V	P
2	DCTO DC Diode Peak **Voltage**	D414 Rated HFA16TA60C : 8A 600V	I/P:27VDC O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 396 V (2) 384 V (3) 394 V	P
3	**Input Capacitor Voltage**	C417 Rated : 220u / 450V/ 105℃	I/P:27VDC 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) 352 V (2) 369 V (3) 369 V	P
4	INVERTER Power Transistor (D to S) or (C to E) **Peak Voltage**	Q12 Rated HGTG12N60A4D : 12A/ 600V	I/P:27VDC O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 510 V (2) 492 V (3) 490 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2006/4/18	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2006/9/25	PRODUCT SAMPLE W0605A45	PASS	VINCENT TSENG	MAX LIN
2007/5/15	PRODUCT SAMPLE W0703A19	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023