

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°C	V1: 23 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 48 V~ 53V	I/P: 230 VAC O/P:MIN LOAD Ta:25°C	38.4V~54.6V/230 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: +1 %~ -1 % (Max)	I/P: 264 VAC / 180 VAC O/P:FULL/ 0 % LOAD Ta:25°C	V1: +0.1 %~-0.1 %	P
4	LINE REGULATION	V1: +0.5 %~ -0.5 % (Max)	I/P: 264 VAC ~ 180 VAC O/P:FULL LOAD Ta:25°C	V1:0 %~0 %	P
5	LOAD REGULATION	V1: +1 %~ -1 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: +0.1 %~ -0.1 %	P
6	SET UP TIME	230VAC/ 1200 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 805 ms	P
7	RISE TIME	230VAC/ 40 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 18 ms	P
8	HOLD UP TIME	230VAC/ 16 ms (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 24 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: <2 %	P
10	DYNAMIC LOAD	V1: 4800 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	859 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	180 VAC~ 264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	155 V - 264 V	P
			I/P: LOW-LINE-3V= 177 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: 264 VAC ~ 180 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	POWER FACTOR	0.7/ 230 VAC(TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	PF= 0.76 / 230 VAC	P
4	EFFICIENCY	89 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	90%	P
5	INPUT CURRENT	230 V/ 4 A (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I = 3 A / 230 VAC	P
6	INRUSH CURRENT	230 V/ 50 A (TYP) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I =35 A / 230 VAC	P
7	LEAKAGE CURRENT	< 3.5 mA / 240 VAC	I/P: 264 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.9 mA N-FG: 0.9 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 150 %	I/P: 230 VAC I/P: 180 VAC O/P: TESTING Ta: 25°C	138%/ 230 VAC 138%/ 180 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 30 V~ 36 V	I/P: 230 VAC O/P: MIN LOAD Ta: 25°C	59V/ 230 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW > 100 °C ± 5°C O.T.P. NO DAMAGE	I/P: 230 VAC O/P: FULL LOAD	98°C / 230 VAC O.T.P. Active Shunt down O/P voltage · recovers automatically after temperature goes down	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 230 VAC O/P: 100% LOAD Ta: 25°C	NO DAMAGE Constant Current Limiting	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : DRP-480-48 1. ROOM AMBIENT BURN-IN : 1 2HRS I/P: 230 VAC O/P: 100% LOAD Ta= 22.9 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 45.3 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 13.8A 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= -20 °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

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3.0 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: 6.8 mA I/P-FG: 5.4 mA O/P-FG: 4.1 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: 12G Ω I/P-FG: 6G Ω O/P-FG: 8G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	30 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50035358 UL: File NO : E215312			P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS D	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	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 53 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 266254 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 38732 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 180.9K 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 IRFP460A : 500 V 20 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) 222 V (2) 306 V (3) 456 V	p
2	Diode Peak Voltage	D54 Rated PA905C6 : 600 V20 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) 258 V (2) 298 V (3) 434 V	p
3	Input Capacitor Voltage	C5 Rated 470u/400V/105°C	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on/off (2) Minl Load Turn on/off (3)Full Load/ Minl Load (4)Burn-in 1 hour Ta:25°C	(1) 388 V (2) 376 V (3) 376 V (4)372 V	p
4	Control IC Voltage Test	U1 Rated IC2842 : 30V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on/off (2) Minl Load Turn on/off (3)Full Load/ Minl Load Change Ta:25°C	(1) 23 V (2) 23 V (3) 23 V	p

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2003/7/9	RD SAMPLE	PASS	VINCENT TSENG	MAX
2003/9/17	PRODUCT SAMPLE CA308A01	PASS	VINCENT TSENG	MAX
2003/11/27	PRODUCT SAMPLE CA11A04B	PASS	VINCENT TSENG	MAX

2003/7/14 A50-F023