

**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: 21 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 24 V~ 28 V	I/P: 230 VAC O/P:MIN LOAD Ta:25°C	21V~29V/230 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: +1 %~ -1 % (Max)	I/P: 264 VAC / 190 VAC O/P:FULL/ 0 % LOAD Ta:25°C	V1: +0.4 %~-0.4 %	P
4	LINE REGULATION	V1: +0.5 %~ -0.5 % (Max)	I/P: 230 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: +0.2 %~ -0.2 %	P
6	SET UP TIME	230VAC/ 1200 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 830 ms	P
7	RISE TIME	230VAC/ 40 ms (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 10 ms	P
8	HOLD UP TIME	230VAC/ 16 ms(TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 23 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: 2400 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	642 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	159 V - 264 V	P
			I/P: LOW-LINE-3V= 180 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 ~ 190 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= 0.75 / 230 VAC	P
4	EFFICIENCY	89 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	89.7 %	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: 0.82 mA N-FG: 0.86 mA	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 150 %	I/P: 230 VAC O/P: TESTING Ta: 25°C	110%/ 230 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	33.4V/ 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	102°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: 272 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-480-24 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 33.2 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 53.3 °C			<b>P</b>
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P: 230 VAC O/P: 114% Ta:25°C	TEST : OK	<b>P</b>
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: 100 % LOAD Ta= -20 °C	TEST : OK	<b>P</b>
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= 50.6 °C HUMIDITY= 95 %R.H	TEST : OK	<b>P</b>
5	TEMPERATURE COEFFICIENT	± 0.03 % (0-50°C)	I/P: 230 VAC O/P: FULL LOAD	± 0.01 % (0-50°C)	<b>P</b>

**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: 6.54 mA I/P-FG: 5.53 mA O/P-FG: 4.2 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: 13.6G Ω I/P-FG: 6.2G Ω O/P-FG: 9.19G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	25 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= 244939 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 40437 HRS			<b>P</b>
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 180.9K HRS			<b>P</b>

**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) 252 V (2) 332 V (3) 82 V	<b>p</b>
2	Diode Peak Voltage	D54 Rated D9202 : 200 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) 102 V (2) 146 V (3) 0 V	<b>p</b>
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) Mini Load Turn on/off (3)Full Load/ Mini Load (4)Burn-in 1 hour Ta:25°C	(1) 398 V (2) 376 V (3) 372 V (4) 378 V	<b>p</b>
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) Mini Load Turn on/off (3)Full Load/ Mini Load Change Ta:25°C	(1) 23 V (2) 23 V (3) 23 V	<b>p</b>

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