

MODEL : IPC-300B

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1:240 mVp-p (Max) V2:50 mVp-p (Max) V3:120 mVp-p (Max) V4:100 mVp-p (Max) V5:120 mVp-p (Max) V6:50 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 69 mVp-p (Max) V2: 37 mVp-p (Max) V3: 72 mVp-p (Max) V4: 28 mVp-p (Max) V5: 64 mVp-p (Max) V6: 14 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 22.8V- 25.2V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	22.68 V- 26.13 V/ 230 VAC 22.68 V- 26.13 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 5 %- -5 % (Max) V2: 5 %- -5 % (Max) V3: 7 %- -7 % (Max) V4: 8 %- -8 % (Max) V5: 10 %- -10 % (Max) V6: 5 %- -5 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL/ 40% LOAD Ta:25°C	V1: 0.7 %- -0.7 % V2: 2.1 %- -2.1 % V3: 2 %- -2 % V4: 0.5 %- -0.5 % V5: 3.7 %- -3.7 % V6: 2.8 %- -2.8 %	P
4	LINE REGULATION	V1: 1 %- -1 % (Max) V2: 1 %- -1 % (Max) V3: 1 %- -1 % (Max) V4: 2 %- -2 % (Max) V5: 2 %- -2 % (Max) V6: 1 %- -1 % (Max)	I/P: 115 VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0.03 %- -0.13 % V2: 0 %- 0 % V3: 0.05 %- -0.05 % V4: 0 %- 0 % V5: 0.06 %- -0.06 % V6: 0.13 %- -0.13 %	P
5	LOAD REGULATION	V1: 5 %- -5 % (Max) V2: 5 %- -5 % (Max) V3: 7 %- -7 % (Max) V4: 8 %- -8 % (Max) V5: 10 %- -10 % (Max) V6: 5 %- -5 % (Max)	I/P: 230 VAC O/P:FULL -MIN LOAD Ta:25°C	V1: 0.7 %- -0.7 % V2: 2.1 %- -2.1 % V3: 0.8 %- -0.8 % V4: 0.4 %- -0.4 % V5: 1 %- -1 % V6: 2.8 %- -2.8 %	P
6	CROSS REGULATION	V1: 5 %- -5 % (Max) V2: 5 %- -5 % (Max) V3: 7 %- -7 % (Max) V4: 8 %- -8 % (Max) V5: 10 %- -10 % (Max) V6: 5 %- -5 % (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0.6 %- -0.6 % V2: 0 %- 0 % V3: 2 %- -2 % V4: 0.5 %- -0.5 % V5: 2 %- -2 % V6: 0.5 %- -0.5 %	P
7	SET UP TIME	230VAC: 800 ms (Max) 115 VAC: 2500 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 230 ms 115VAC/ 230 ms	P
8	RISE TIME	230VAC: 20 ms (Max) 115VAC: 20 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 13 ms 115VAC/ 13 ms	P
9	HOLD UP TIME	230VAC: 16 ms (TYP) 115VAC: 16 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 19.9 ms 115VAC/ 20 ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: <5 %	P
11	DYNAMIC LOAD	V1: 2400 mVp-p	I/P: 230 VAC O/P:FULL /50% LOAD 90%DUTY/1KHZ Ta:25°C	935 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90VAC~264 VAC)	I/P:TESTING O/P:FULL LOAD Ta:25°C	65 V~264V	P
			I/P: LOW-LINE-3V= 87V 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	47HZ ~63 HZ NO DAMAGE OSC	I/P: 90VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK	P
3	POWER FACTOR	0.95 / 230 VAC(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	PF= 0.96 / 230 VAC	P
		0.95 / 115 VAC (TYP)		PF= 0.99 / 115 VAC	
4	EFFICIENCY	75% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	80.7 %	P
5	INPUT CURRENT	230V/ 2.3 A(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 1.66 A/ 230 VAC	P
		115V/ 4.6 A(TYP)		I = 3.38 A/ 115 VAC	
6	INRUSH CURRENT	230V/ 80 A(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 51 A/ 230 VAC	P
		115V/ 40 A (TYP) COLD START		I = 25 A/ 115 VAC	
7	LEAKAGE CURRENT	< 3 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 1.2 mA N-FG: 1.2 mA	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 150 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	142 %/ 230 VAC 139 %/ 115 VAC Shunt down Re-power ON	P
2	OVER VOLTAGE PROTECTION	+3V,+5V: 110%~140% of rated voltage  +12V: 13.2V~16V	I/P: 230 VAC O/P:MIN LOAD Ta:25°C	127 %/ +24V 123 %/ +5V 15.5V/ +12V Shunt down Re- power ON	P
3	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE Shunt down Re-power ON	P

**CONTROL FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	POWER GOOD SIGNAL	DELAY 100ms ~ 500ms	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	260 ms/ 230VAC 260 ms/ 115 VAC	P
2	POWER FAIL SIGNAL	>1ms	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	4.8 ms/ 230 VAC 4.8 ms/115 VAC	P
3	PS-ON INPUT SIGNAL	Power off :PS-ON="Hi" or ">2v" Power on :PS-ON="Low" or "<0.5v"	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	Power off : PS-ON="Hi" or 0.7V~5V Power on : PS-ON="Low" or 0V~0.7V	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : IPC-300A 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 230VAC O/P: FULL LOAD Ta= 31.9 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230VAC O/P: FULL LOAD Ta= 48.7 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P: 230 VAC O/P: 115 % 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= -20 °C	TEST : OK	P
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 40 °C NO DAMAGE	I/P: 272 VAC O/P: FULL LOAD Ta= 40°C HUMIDITY= 95 %R.H	TEST : OK	P
5	TEMPERATURE COEFFICIENT	± 0.05 %(0-50°C)	I/P: 230 VAC O/P: FULL LOAD	± 0.02 %(0-50°C)	P
6	VIBRATION TEST	1 Carton & 1 Set (1) Waveform: Sine Wave (2) Frequency:10-500Hz (3) Sweep Time:10min/sweep cycle (4) Acceleration:2G (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: 1.5 KVAC/min I/P-FG: 1.5 KVAC/min	I/P-O/P: 1.8 KVAC/min I/P-FG: 1.8 KVAC/min Ta:25°C	I/P-O/P: 6.71 mA I/P-FG: 6.97 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: 4 GΩ I/P-FG: 3 GΩ O/P-FG: 6 GΩ  NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	3 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50062279 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 142 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 945732 HRS I/P: 230VAC O/P:FULL LOAD Ta= 40 °C LIFE TIME= 339004 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 94.1K HRS			P



COMPONENT STRESS TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor ( D to S) or (C to E) <b>Peak Voltage</b>	Q 21 Rated 2SK2082 : 900V 9A  Q 22 Rated 2SK2082 : 900V 9A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 772 V (2) 796 V (3) 388 V  (1) 772 V (2) 796 V (3) 396 V	P
2	Diode <b>Peak Voltage</b>	D101 Rated MBR3060PT : 60V 30A  D110 Rated S60SC4M : 40V 60A  D112 Rated 31DQ10 : 100V 3A  D140 Rated S30C4M : 40V 30A  D160 Rated YG802C04 : 40V 10A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 40 V (2) 35.6 V (3) 2 V  (1) 28.8 V (2) 25.3 V (3) 0 V  (1) 63.2 V (2) 56.4 V (3) 0.8 V  (1) 19.7 V (2) 18.9 V (3) 1 V  (1) 34 V (2) 34 V (3) 34 V	P
3	<b>Input Capacitor Voltage</b>	C 5 Rated : 150u / 400V/ 85°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) 424 V (2) 420 V (3) 394 V	P
4	<b>Control IC Voltage Test</b>	U1 Rated ML4800CP : 18V	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) 15.2 V (2) 12.8 V (3) 13.8 V	P
5	PFC Power Transistor ( D to S) or (C to E) <b>Peak Voltage</b>	Q 1 Rated 16N50C3 : 500V 30A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 390 V (2) 414 V (3) 390 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2005/1/19	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2005/7/15	PRODUCT SAMPLE W0504B42	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023