

MODEL : APC-16-700

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 250 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 60.4 mVp-p (Max)	PASS
2	OUTPUT VOLTAGE TOLERANCE	V1: -5 %~ +5 % (Max)	I/P: 100VAC / 264 VAC O/P:FULL/ 0% LOAD Ta:25°C	V1: -0.2%~ 0.2 %	PASS
3	LINE REGULATION	V1: -1 %~ +1 % (Max)	I/P: 100 VAC ~ 264VAC O/P:FULL LOAD Ta:25°C	V1: -0.05%~ 0.02 %	PASS
4	LOAD REGULATION	V1: -3 %~ +3 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.1 %~ 0.2 %	PASS
5	SET UP TIME	230VAC/ 3000 ms (Max) 115VAC/ 3000 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 774.397 ms 115 VAC/ 1278.036ms	PASS
6	RISE TIME	230VAC/ 200 ms (Max) 115VAC/ 200 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 59.965 ms 115 VAC/ 56.617ms	PASS
7	HOLD TIME	230VAC/ 20 ms (Typ) 115VAC/ 12 ms (Typ)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 81.069 ms 115 VAC/ 17.372 ms	PASS
8	OVER/UNDERSHOOT TEST	< ±5 %	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: ±0.40%	PASS

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90 VAC~ 264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	90 V~ 264 V	PASS
			(1)I/P: LOW-LINE-3V= 87 V HIGH-LINE+15%= 300 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (2) I/P:230VAC ON: 0.5 Sec . OFF: 0.5 Sec 20MIN (AC POWER ON/OFF NO DAMAGE)	TEST: (1) OK (2) OK	

2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE OSC	I/P: 90 VAC ~264 VAC O/P: FULL-MIN LOAD Ta: 25°C	TEST: OK	PASS
3	EFFICIENCY	83 % (Typ)	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	85.679 %	PASS
4	INPUT CURRENT	230 V/ 0.3 A (Typ) 115 V/ 0.5 A (Typ)	I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C	I = 0.2038A/ 230VAC I = 0.3173A/ 115VAC	PASS
5	INRUSH CURRENT	230 V/ 70 A 115 V/ 35 A COLD START	I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C	I = 36.592 A/ 230VAC I = 13.351 A/ 115VAC	PASS

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER VOLTAGE PROTECTION	CH1: 27.6 V ~ 33.5 V	I/P: 264 VAC I/P: 230 VAC I/P: 90 VAC O/P: MIN LOAD Ta: 25°C	30.187 V/ 264VAC 30.187 V/ 230VAC 30.187 V/ 90VAC Shut off O/P voltage, clamping by zener diode	PASS
2	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P: FULL LOAD Ta: 25°C	NO DAMAGE Constant Current Limiting	PASS

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : APC-16-700 1. ROOM AMBIENT BURN-IN : 2 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 29.5 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230 VAC O/P: 100% LOAD Ta= 46.8 °C			PASS

NO	Position	P/N	ROOM AMBIENT Ta= 29.5 °C	HIGH AMBIENT Ta= 46.8 °C
1	BD1	KBP208G	56.7°C	71.1°C
2	L1	DRGZ001D	59.0°C	73.4°C
3	C5	15uF/400V KM	55.3°C	69.7°C
4	C6	15uF/400V KM	68.7°C	82.6°C
5	D1	1N4007	74.4°C	88.9°C
6	U1	SD4843	78.9°C	91.9°C
7	C9	10uF/50V YXF	64.2°C	78.0°C
8	T1	TF-6342	79.5°C	94.5°C
9	C2	22uF/50V KY	67.3°C	80.8°C
10	D10	HER303	80.7°C	95.4°C
11	C15	220uF/35V GL	67.6°C	82.6°C
12	C16	100uF/35V GL	59.7°C	74.7°C
13	C17	47uF/50V GL	72.4°C	87.2°C

2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 264 VAC/100 VAC O/P: 100% LOAD Ta= -30 °C	TEST : OK	PASS
3	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	PASS
4	TEMPERATURE COEFFICIENT	± 0.2 %(0~50°C)	I/P: 230 VAC O/P: FULL LOAD	± 0.073 %(0~50°C)	PASS
5	STORAGE TEMPERATURE TEST	1. Thermal shock Temperature : -45°C ~ +85°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 5 CYCLE 5. Input/Output condition : STATIC		TEST : OK	PASS
6	THERMAL SHOCK TEST	1. Thermal shock Temperature : -35 °C ~ +45 °C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : 230VAC/Full Load 58SEC ON/2SEC OFF		TEST : OK	PASS
7	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	PASS
8	CAPACITOR LIFE CYCLE	APC-16-700: SUPPOSE C15 IS THE MOST CRITICAL COMPONENT (1) I/P: 230 VAC O/P: FULL LOAD Ta= 25 °C LIFE TIME= 109774 HRS (2) I/P: 230 VAC O/P: FULL LOAD Ta= 40 °C LIFE TIME= 45533 HRS			PASS
9	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 1145.7K HRS			PASS
10	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure(Expected Life) : 20,000 hours @ Tcase 70°C , 50,000 hours @ Tcase 55°C			PASS

SAFETY TEST

1	WITHSTAND VOLTAGE	I/P-O/P: 3.75 KVAC/min EN 60950	I/P-O/P: 4.2 KVAC/min Ta: 25°C	I/P-O/P: 1.586 mA NO DAMAGE	PASS
2	ISOLATION RESISTANCE	I/P-O/P: 500VDC > 100MΩ	I/P-O/P: 500 VDC Ta: 25°C	I/P-O/P: > 9999 MΩ NO DAMAGE	PASS
3	LEAKAGE CURRENT	< 0.25 mA / 240VAC EN 60950	I/P: 264 VAC O/P: NO LOAD Ta: 25°C	L-FG: 2.2 uA N-FG: 2.2 uA	PASS

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 220V/230V/240V AC 50HZ O/P: 100%/75%/50%/25% LOAD Ta: 25°C	PASS	PASS
2	CONDUCTION	EN55015	I/P: 230 VAC (50HZ) /115V(60HZ) O/P: FULL/50% LOAD Ta: 25°C	PASS Test by certified Lab	PASS

3	RADIATION	EN55015	I/P: 230 VAC (50HZ)/115V(60HZ) O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	PASS
4	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	PASS
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	PASS
6	SURGE	EN61000-4-5 LIGHT INDUSTRY L-N :2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	PASS
7	Test by certified Lab & Test Report Prepare				

COMPONENT STRESS TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	U1 Rated SD4843 : 650 V 11 A	I/P:High-Line +3V =267 V O/P: (1)Full Load input on/off (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (4)Dynamic Load 50% Load/ Min. Load 50%Duty/120Hz I/P:Low-Line -3V = 87 V O/P: (1)Full Load input on/off (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (4)Dynamic Load 50% Load/ Min. Load 50%Duty/120Hz Ta:25°C	(1)582V/1.4A (2)468V/1.08A (3) 550V/740mA (4)570V/970mA (1) 306V/800mA (2)168V/410mA (3) 304V/760mA (4)326V/940mA	PASS
2	Diode Peak Voltage	D10 Rated HER303 : 200 V 3 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load input on/off (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (4)Dynamic Load 50% Load/ Min. Load 50%Duty/120Hz I/P:Low-Line -3V = 87 V O/P: (1)Full Load input on/off (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (4)Dynamic Load 50% Load/ Min. Load 50%Duty/120Hz Ta:25°C	(1) 167V (2)165V (3)163V (4)153V (1)45V (2)49.2V (3)37.8V (4)40.6V	PASS

3	Input Capacitor Voltage	C 5 Rated CAPXON : 15 u / 400 V 105°C / KM Series	I/P:High-Line +3V =267 V O/P: (1)Full Load input on/off (2)Min load input on /off (3)Burn-IN 1Hour Ta:25°C	(1) 382 V (2) 366 V (3) 366 V	PASS
4	Control IC Voltage Test	U 1 Rated SD4843 : 21 V	I/P:High-Line +3V = 267 V O/P:(1).Output Short (2).O.L.P (3).O.V.P. (4).NO LOAD LOW LINE Ta:25°C	(1) 16.1V (2) 16.0V (3) 16.0V (4) 12.3V	PASS

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DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2011/3/1	RD SAMPLE	PASS	SKY	HOWAY
2011/6/10	PRODUCT SAMPLE (W1106A182)	PASS	SKY	HOWAY
2011/7/29	PRODUCT SAMPLE (W1107G162)	PASS	SKY	HOWAY