

MODEL : NED-100A

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 80 mVp-p (Max) V2: 120 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 29.28mVp-p V2:50.2 mVp-p	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1:4.75V ~5.5 V	I/P: 230 VAC I/P:115VAC O/P:MIN LOAD Ta:25°C	5.921V~4.309 V /230vAC 5.919V~4.311 V/115VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -2 %~ +2% (Max) V2: -10 %~ +10% (Max)	I/P:200VAC / 264 VAC O/P:FULL/ 0 % LOAD Ta:25°C	V1: 1.74 %~1.5 % V2: 8.48 %~5.63 %	P
4	LINE REGULATION	V1: -0.5 %~+0.5 % (Max) V2: -0.5 %~+0.5 % (Max)	I/P: 200 VAC ~ 264VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~0 % V2: 0 %~-0.1 %	P
5	LOAD REGULATION	V1: -1%~ 1 % (Max) V2: -5%~ 5 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.12 %~ 0.12 % V2: 2.01 %~1.27 %	P
6	SET UP TIME	230VAC/ 2000 ms (Max) 115VAC/ 1200 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/605.648 ms 115 VAC/ 405.509ms	P
7	RISE TIME	230VAC/ 30 ms (Max) 115VAC/ 30 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 4.237 ms 115 VAC/ 4.224 ms	P
8	HOLD UP TIME	230VAC/25 ms (TYP) 115VAC/20 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/35.199 ms 115 VAC/ 31.887 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST:3.2%	P
10	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 230 VAC O/P(1)FULL /Min LOAD 90%DUTY/1KHZ (2)50% /Min LOAD 90%DUTY/1KHZ Ta:25°C	304 mVp-p 124mVp-p	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	176AC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	126.025V~264 V	P
			I/P: LOW-LINE-3V= 176V 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: 200 VAC ~264 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	80 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	82.61%	P
4	INPUT CURRENT	230 V/ 1.2A (Typ) 115 V/ 2 A (Typ)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I=0.962A/ 230VAC I=1.766 A/ 115VAC	P
5	INRUSH CURRENT	230 V/45 A (Typ) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	I=37.039A/ 230VAC	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110%~150%RATED OUTPUT POWER	I/P: 230 VAC/115VAC O/P:TESTING Ta:25°C	127.75%/230VAC 125.21%/ 115VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 5.75V-6.75V	I/P: 230 VAC/115VAC O/P:MIN. LOAD Ta:25°C	6.52V/230VAC 6.52 V/115VAC Hiccup Model	P
3	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE Hiccup Mode	P

**SAFETY TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3 KVAC/min I/P-FG:2 KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C	I/P-O/P:9.02 mA I/P-FG:7.35mA O/P-FG:9.61 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:2.02 G Ω I/P-FG:G 1.13Ω O/P-FG:3.08G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	7 mΩ	P
4	LEAKAGE CURRENT	< 2mA / 240VAC	I/P: 264 VAC O/P:Min LOAD Ta:25°C	L-FG: 1.35 mA N-FG: 1.4 mA	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:100% 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 LIGHT 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 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	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°C	CRITERIA A	P
7	Test by certified Lab & Test Report Prepare				

## ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : NED-100C 1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 33.8 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 36.9 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P: 230 VAC O/P: 120% LOAD Ta:25°C	TEST : OK	P
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC O/P: 70 % LOAD Ta= -20 °C	TEST : OK	P
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL °C NO DAMAGE	I/P: 277 VAC O/P: FULL LOAD Ta= 45 °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
6	VIBRATION TEST	1 Carton & 1 Set Operating at I/P: VAC NO LOAD (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

## M.T.B.F & LIFE CYCLE CALCULATION

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	NED-100C: SUPPOSE C105 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P: FULL LOAD Ta= 25 °C LIFE TIME= 98617 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 45 °C LIFE TIME= 27936 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 320.7K HRS			P



COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor ( D to S) or (C to E) <b>Peak Voltage</b>	Q1 Rated 900V 7A	I/P:High-Line +3V = 267 V O/P: (1)Full Load input on/off (2)Output Short Ta:25°C	(1)860V (2)856 V	P
2	Diode <b>Peak Voltage</b>	D100 Rated 60V 30 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load input on/off (2)Output Short Ta:25°C	(1)36.2V (2)33.2V	p
3	<b>Input Capacitor Voltage</b>	C 5 Rated 220 uF /250 V	I/P:High-Line +3V =267 V O/P: (1)Full Load input on/off (2) Min load input on /Off Ta:25°C	(1)181V (2)182V	P
4	<b>Control IC Voltage Test</b>	U1 Rated 30 V	I/P:High-Line +3V =267 V O/P:(1) Output Short (2)O.L.P Ta:25°C	(1)20.7V (2) 20.5V	P

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	DANIEL GAO	SANFORD SU	VINCENT ZENG

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