



Test Report: NGE30U05-P1J

30W AC-DC Reliable Wall-mounted Interchangeable
Type Green Adaptor

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

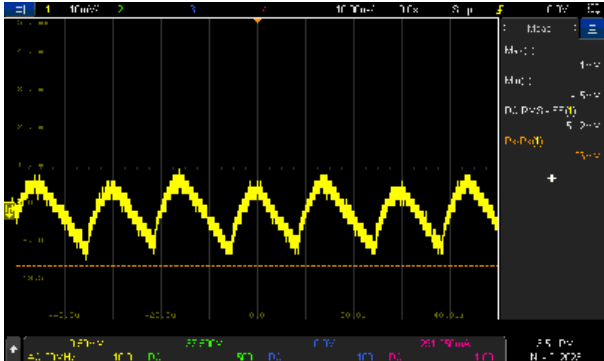
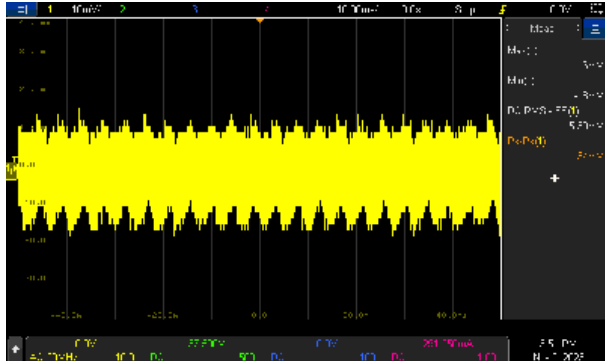
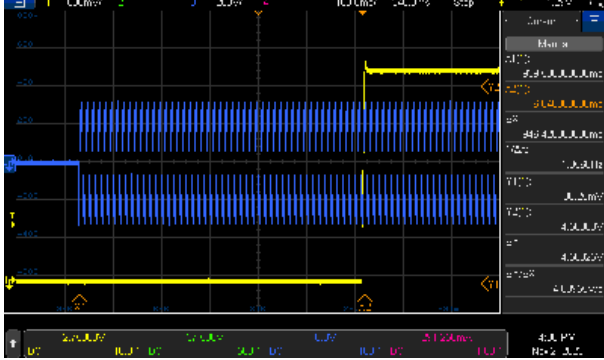
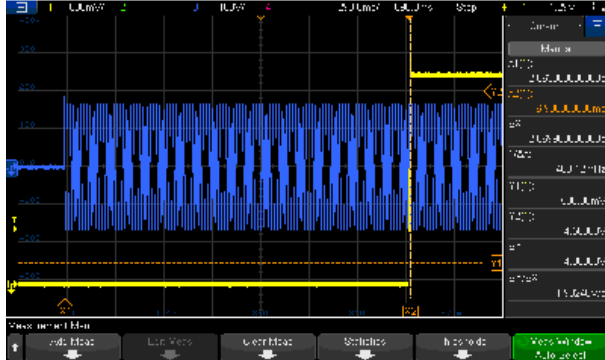
E.M.C. Test

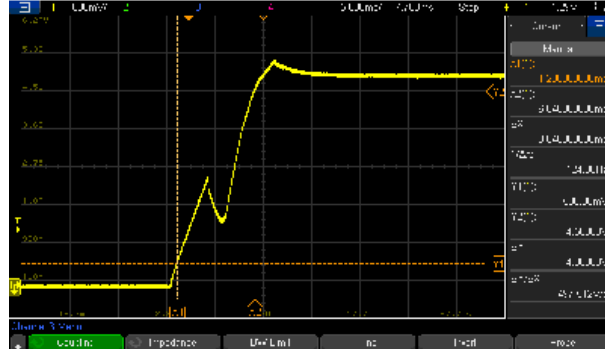
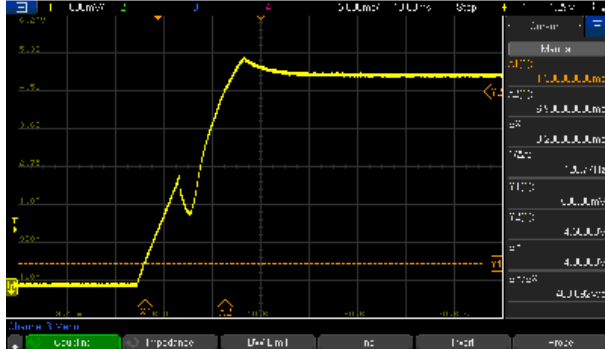
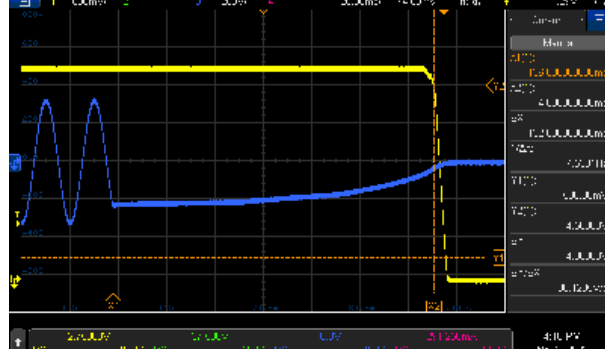
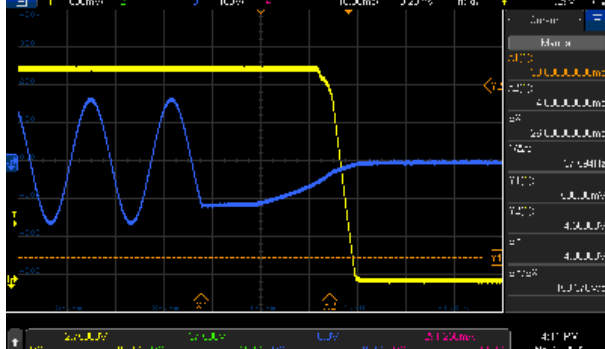
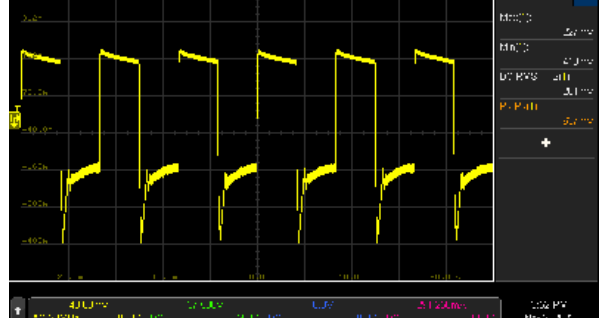
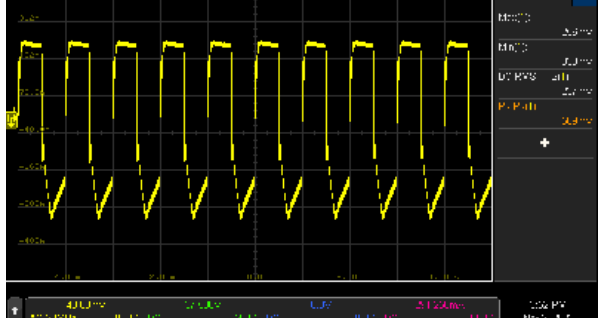
■ RELIABILITY TEST

ENVIRONMENT TEST

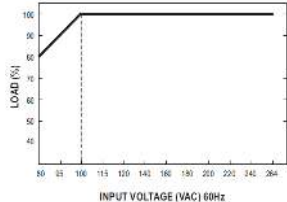
DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

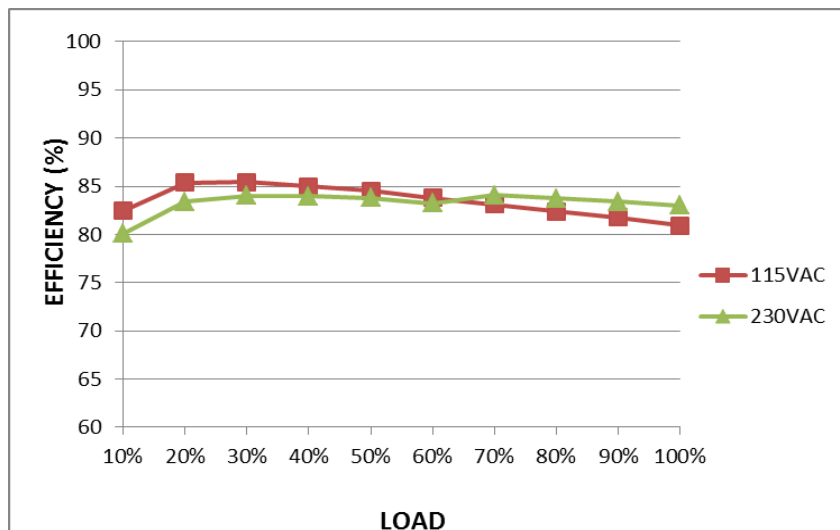
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE TOLERANCE	V1: -5%~ +5%	I/P: 80VAC~264VAC O/P:FULL~MIN. LOAD Ta:25°C	V1: -2.47%~2.47%
2	LINE REGULATION	V1: -1%~ +1%	I/P: 80VAC~ 264VAC O/P:FULL LOAD Ta:25°C	V1: -0.02%~0%
3	LOAD REGULATION	V1: -5%~ +5%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -2.47%~2.47%
4	OVER/UNDERSHOOT TEST	<± 10%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	7.82%
5	RIPPLE & NOISE (Max)	V1: 100mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	V1: 26mVp-p / high frequency 34mVp-p / low frequency
high frequency :		low frequency :		
				
6	SET UP TIME(Max)	230VAC/1500ms 115VAC/3000ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 946.42ms 115VAC/ 2069.9ms
INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage		INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage		
				

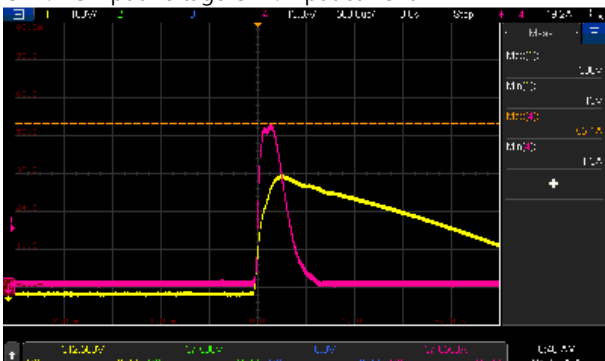
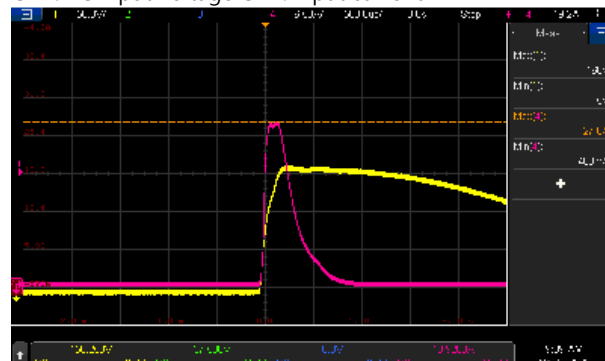
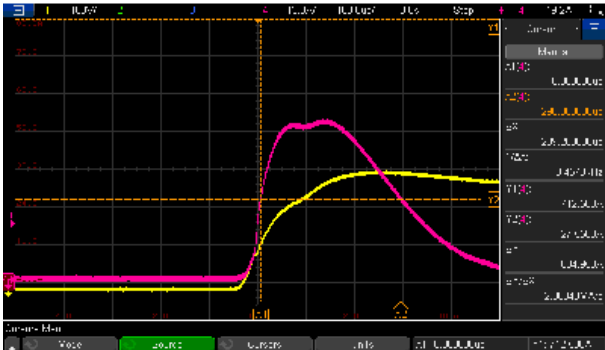
7	RISE TIME (Max)	230VAC/30ms 115VAC/30ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 8.04ms 115VAC/ 8.28ms
INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage  INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage 				
8	HOLD UP TIME (Typ.)	230VAC/30ms 115VAC/10ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 132.8ms 115VAC/ 26.6ms
INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage  INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage 				
9	DYNAMIC LOAD	V1: 1000mVp-p	I/P: 230VAC O/P: (1) FULL/0% LOAD 50%DUTY / 120HZ (2) FULL/0% LOAD 50%DUTY / 1KHZ Ta:25°C	637mVp-p 589mVp-p
FULL /0% LOAD 50%DUTY / 120HZ  FULL /0% LOAD 50%DUTY / 1KHZ 				

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	80VAC~264VAC 113VDC~370VDC 	(1) I/P: TESTING O/P: FULL LOAD/ 80% LOAD (2) I/P: DC TESTING (L: + N:-) O/P: FULL LOAD/ 80% LOAD (3) I/P: DC TESTING (L: - N: +) O/P: FULL LOAD/ 80% LOAD Ta:25°C I/P: HIGH-LINE+15%=300V O/P:FULL LOAD /MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	(1) 72.7V~264V/ FULL LOAD 72.7V~264V/ 80% LOAD (2) 102.1Vdc~370Vdc/FULL LOAD 102.1Vdc~370Vdc/80% LOAD (3) 102.1Vdc~370Vdc/FULL LOAD 102.1Vdc~370Vdc/80% LOAD
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:80 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK
3	INPUT CURRENT (Typ.)	230V/ 0.6A 115V/ 1A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =0.263A/ 230VAC I =0.412A/ 115VAC
4	LEAKAGE CURRENT	Touch current 100uA/ 264V for 60601	I/P : 264 VAC O/P : Min LOAD Ta : 25°C	72.5uA
5	NO LOAD CONSUMPTION	< 0.075W	I/P : 240VAC O/P : NO LOAD Ta : 25°C	0.047W
6	EFFICIENCY(Typ.)	82%	I/P:230VAC	83.56%

EFFICIENCY vs LOAD



7	INRUSH CURRENT(Typ.)	230V/70A 115V/35A COLD START	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =55.1A/ 230VAC I =27.8A/ 115VAC T50=289.2us/230V
INPUT=230VAC/50HZ @ FULL LOAD CH1: AC Input Voltage CH4: Input current  INPUT=115VAC/ 60HZ @ FULL LOAD CH1: AC Input Voltage CH4: Input current  				

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	110%~150% rated output power Protection type: Hiccup mode, recovers automatically after fault condition is removed	I/P: 264VAC I/P: 230VAC I/P: 100VAC O/P: TESTING Ta:25°C	123.75%/ 264VAC 124.75%/ 230VAC 128.25%/100VAC PROTECTION TYPE : Hiccup mode, recovers automatically after fault condition is removed
2	OVER VOLTAGE PROTECTION	110%~140% rated output voltage Protection type: Clamp by zener diode	I/P: TESTING O/P: MIN LOAD Ta:25°C	6.44V PROTECTION TYPE : Clamp by zener diode
3	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE Protection type: Hiccup mode, recovers automatically after fault condition is removed	I/P: 264VAC I/P: 80VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE PROTECTION TYPE : Hiccup mode, recovers automatically after fault condition is removed

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated: 7.3A/ 700V	AC ON/OFF I/P: High-Line +3V =267V VDS: O/P: (1)Full Load (2)Output Short (3) Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4) Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5) Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6) Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. Ta:25°C	Q1 VDS: (1) 586V (2) 586V (3) 590V (4) 586V (5) 586V (6) 590V (7) 582V
2	Diode Peak Voltage	Q100 Rated: 65A/100V	AC ON/OFF I/P: High-Line +3V =267 V O/P: (1)Full Load (2)Output Short (3) Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4) Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5) Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6) Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8).NO LOAD Ta:25°C	Q100: VDS: (1) 29.9V (2) 29.7V (3) 24.4V (4) 28.4V (5) 24.4V (6) 23.8V (7) 29.5V (8) 23.6V
3	Input Capacitor Voltage	C5 Rated: 680μ /400 V	I/P: High-Line +3V =267V O/P: (1)Full Load input on/off (2) Min load input on /Off (3) Full Load /Min load Change (4) Full load continue Ta:25°C	(1) 377V (2) 377V (3) 377V (4) 377V
4	Control IC Voltage Test	PWM IC U3 Rated: 8V~ 26.5V O/P IC U101 Rated: 4V~ 13V	AC ON/OFF I/P: High-Line +3V =267 V O/P:(1) FULL LOAD (2) Output Short (3) O.L.P (4) NO LOAD VRmin (LOW LINE) Ta:25°C	U3 U101 (1) 20.1V (1) 8.84V (2) 16.6V (2) 7.24V (3) 19.5V (3) 8.84V (4) 18.4V (4) 8.46V



30W AC-DC Reliable Wall-mounted
Interchangeable Type Green Adaptor

NGE30 series

5	Clamp Diode Peak Voltage	D5 Rated : 600V/1A	AC ON/OFF I/P : High-Line +3V = 267 V O/P : (1) Dynamic Load 90%Duty/1KHz (2) Full load continue Ta : 25°C	(1) 534V (2) 526V
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■ SAFETY& E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC/min	I/P-O/P: 4.4 KVAC/min Ta:25°C	I/P-O/P: 1.358 mA NO DAMAGE
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P: 600 VDC Ta:25°C	I/P-O/P: 50 GΩ NO DAMAGE

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	BS EN/EN61000-3-2 ■ CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	BS EN/EN55032(CISPR32)/EN55011, FCC Part15 , CNS15936, GB/T 9254.1-2021 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS
3	RADIATION	BS EN/EN55032(CISPR32)/EN55011, FCC Part15 , CNS15936, GB/T 9254.1-2021 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS
4	E.S.D	BS EN/EN61000-4-2 Level 3, 15KV air; Level 2, 8KV contact	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	BS EN/EN 61000-4-4 INPUT : 1KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	BS EN/EN 61000-4-5 Level 3, 1KV/L-N	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
7	Test by certified Lab & Test Report Prepare Any contradictions of the test results, please refer to the latest EMC test report			



■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT																																																																																																
1	TEMPERATURE RISE TEST	MODEL : NGE30CN05-P1J 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 25 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta=45 °C <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=25°C</th><th>HIGH AMBIENT Ta=45°C</th></tr><tr><td>1</td><td>RTH1</td><td>51.9°C</td><td>68.3°C</td></tr><tr><td>2</td><td>LF1</td><td>54.5°C</td><td>72.4°C</td></tr><tr><td>3</td><td>ZNR1</td><td>57.8°C</td><td>76.1°C</td></tr><tr><td>4</td><td>C1</td><td>60.1°C</td><td>78.5°C</td></tr><tr><td>5</td><td>LF2</td><td>63.2°C</td><td>81.5°C</td></tr><tr><td>6</td><td>BD1</td><td>63.2°C</td><td>81.5°C</td></tr><tr><td>7</td><td>Q1</td><td>66.9°C</td><td>85.0°C</td></tr><tr><td>8</td><td>C5</td><td>58.6°C</td><td>77.5°C</td></tr><tr><td>9</td><td>C40</td><td>65.7°C</td><td>84.2°C</td></tr><tr><td>10</td><td>T1coil</td><td>76.1°C</td><td>94.5°C</td></tr><tr><td>11</td><td>T1core</td><td>71.0°C</td><td>89.5°C</td></tr><tr><td>12</td><td>C107</td><td>67.2°C</td><td>86.4°C</td></tr><tr><td>13</td><td>C106</td><td>70.9°C</td><td>89.9°C</td></tr><tr><td>14</td><td>L100</td><td>63.8°C</td><td>82.9°C</td></tr><tr><td>15</td><td>Q100</td><td>89.9°C</td><td>109.4°C</td></tr><tr><td>16</td><td>U101</td><td>81.2°C</td><td>99.4°C</td></tr><tr><td>17</td><td>U2</td><td>53.7°C</td><td>72.3°C</td></tr><tr><td>18</td><td>R42</td><td>62.3°C</td><td>80.7°C</td></tr><tr><td>19</td><td>R101</td><td>84.3°C</td><td>102.8°C</td></tr><tr><td>20</td><td>D40</td><td>71.9°C</td><td>89.9°C</td></tr><tr><td>21</td><td>U3</td><td>59.7°C</td><td>78.3°C</td></tr><tr><td>22</td><td>D5</td><td>90.7°C</td><td>105.5°C</td></tr><tr><td>23</td><td>D43</td><td>58.5°C</td><td>76.9°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta=25°C	HIGH AMBIENT Ta=45°C	1	RTH1	51.9°C	68.3°C	2	LF1	54.5°C	72.4°C	3	ZNR1	57.8°C	76.1°C	4	C1	60.1°C	78.5°C	5	LF2	63.2°C	81.5°C	6	BD1	63.2°C	81.5°C	7	Q1	66.9°C	85.0°C	8	C5	58.6°C	77.5°C	9	C40	65.7°C	84.2°C	10	T1coil	76.1°C	94.5°C	11	T1core	71.0°C	89.5°C	12	C107	67.2°C	86.4°C	13	C106	70.9°C	89.9°C	14	L100	63.8°C	82.9°C	15	Q100	89.9°C	109.4°C	16	U101	81.2°C	99.4°C	17	U2	53.7°C	72.3°C	18	R42	62.3°C	80.7°C	19	R101	84.3°C	102.8°C	20	D40	71.9°C	89.9°C	21	U3	59.7°C	78.3°C	22	D5	90.7°C	105.5°C	23	D43	58.5°C	76.9°C
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 125%LOAD Ta : 25°C	TEST : OK																																																																																																
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 264VAC/100VAC O/P : 100%LOAD Ta= -35°C	TEST : OK																																																																																																
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 45°C/95 %R.H NO DAMAGE	I/P : 272 VAC O/P : FULL LOAD Ta= 45°C HUMIDITY= 95 %R.H	TEST : OK																																																																																																



30W AC-DC Reliable Wall-mounted
Interchangeable Type Green Adaptor

NGE30 series

5	TEMPERATURE COEFFICIENT	±0.03%/°C(0~45°C)	I/P : 230 VAC O/P : FULL LOAD	±0.0089%/°C(0~45°C)
6	STORAGE TEMPERATURE TEST	-20~85°C	1. Thermal shock Temperature : -45°C~ +90°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 : STATIC	
7	THERMAL SHOCK TEST	-30~45°C	1. Thermal shock Temperature : -35°C~ +50°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 16 CYCLE 5. Input/Output condition : 15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST 1cycle:230V/ FULL LOAD Burn In Test	
8	VIBRATION TEST	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 10min/sweep cycle (4) Acceleration : 3G (5) Test Time : 180min in each axis (X.Y.Z) (6) Ta : 25°C	
9	CAPACITOR LIFE CYCLE	SUPPOSE C106 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta= 25°C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta= 45°C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 45°C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 45°C LIFE TIME		(1) 253495HRS (2) 28443HRS (3) 110655HRS (4) 388124HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 1078.6 Khrs min. MIL-HDBK-217F (25°C) 7587.5 Khrs min.Telcordia TR/SR-332(Bellcore) (25°C)		
11	Ongoing Reliability Test	I/P : 230VAC O/P : FULL LOAD TA=50°C Demonstration Mean Time Between Failure : 30,000 hours		

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	Yuwei	Liutt	Wangdz

2020.10.1 TAG-QA-009